



GENERAL LIBRARY,
UNIV. OF MICH.
APR 15 1907

Columbia University Quarterly



P. & S.
1807—1907

PUBLISHED BY THE
COLUMBIA UNIVERSITY PRESS
VOLUME IX   NUMBER 2

MARCH



1907

New Books on Public Questions

Mr. E. Parmelee Prentice's vigorous and interesting work on Federal Power Over Carriers and Corporations

A review of the practice, Federal and State, defining the powers of government; with a full discussion of the history, meaning and possibilities of the Sherman (or Anti-Trust) Act.
Cloth, 244 8vo pages, \$1.50 net (postage 12c.)

"To the student of good government, to the lawyer, and to the statesmen, it should prove invaluable."—*Washington Herald.*

The Tariff and the Trusts.

By Franklin Pierce, of the New York Bar.

A clear, simple statement of the requirements of the Dingley Tariff and its effect upon the consumer. The necessary historical information and the analysis of present conditions are adequate without being technical.
387 pages, cloth, 12mo, \$1.50 net (postage 12c.)

"Mr. Pierce's book is the best presentation of the intimate workings of the tariff as a breeder of trusts that I have yet seen. Four years as a newspaper correspondent at Washington gave me a close view of the operations of this great form of privilege, and the pages of this book reveal the kind of things I saw—the cohorts entrenched behind tariff walls against foreign competition and combined within to systematically rob our people."—HENRY GEORGE, JR.

By Professor Charles De Garmo, of Cornell University

Principles of Secondary Education

The Studies

He analyzes and discusses the educational value of the high school studies separately and their best possible combinations. He also aims to show how education for insight can be accompanied by the no less important training for efficiency.
Cloth, 299 12mo pages, \$1.25 net (postage 12c.)

Dr. Samuel E. Sparling's introduction to Business Organization

The book discusses the principles underlying the organizing of a business, including, besides production, methods of sale, advertising, credits, collections, etc.

Citizen's Library. Cloth, leather back, 374 12mo pages, \$1.25 net (postage 12c.)

Miss Jane Addams's new book

Newer Ideals of Peace

"The volume deals with the militant spirit everywhere evident in the industrial phases of Chicago life, and contains a forecast of the means by which peace will finally rule. Her instances are applicable in all American cities."—*Daily News, Chicago.*

Citizen's Library. Cloth, leather back, 12mo, \$1.25 net (postage 12c.)

Kenny and Webb's Outlines of Criminal Law

By COURTNEY STANHOPE KENNY, LL.D., of Lincoln's Inn, Barrister-at-law; Reader in English Law, University of Cambridge. Revised and adapted for American Scholars by JAMES H. WEBB, B.S., LL.B., Instructor in Criminal Law and Procedure and Lecturer on Medical Jurisprudence in the Law Department of Yale University.
Cloth, 8vo, \$1.00 net (postage 16c.)

Life in Ancient Athens By Professor T. G. Tucker, University of Melbourne

The book follows, with a clearness almost dramatic, the social and public life, day by day, of Athens in the period of her greatest glory and most vigorous vitality. It brings out with great suggestiveness that the Athenian is far nearer us not only than the Romans but than our own ancestors of a few centuries ago.
Cloth, 12mo, 323 pages, with 25 illustrations. \$1.25 net.

Dr. Goldwin Smith's Labour and Capital

A letter to a labour friend which has attracted a good deal of attention as an attempt to mediate between the organized armies of industry. He discusses socialism, and other theories, from a position which can be briefly stated as advocating change by progress rather than by revolution.
Cloth, 12mo, 50c. net (postage 4c.)

Emerson By George Edward Woodberry

Professor Woodberry ranks easily among the first critics of our time, and his analysis of Emerson's work and of the sources of his immense moral force and inspiring power is of exceptional interest.
English Men of Letters, American Series. Cloth, 12mo, 75 cents net.

Published by

THE MACMILLAN COMPANY

64-66 Fifth Avenue, N. Y.



The number of dentifrices is myriad, their names are legion, BUT in principle and inefficiency there is but one,

CALOX

The Oxygen Tooth Powder

Its principle is the evolution of oxygen. Its efficiency as a cleanser of the teeth is due to the oxygen which it generates when used.

It may seem that a dentifrice is a matter of little concern to the physician, but when we remember that the mouth is the greatest avenue of entrance for germs that harm, the physician should welcome an agent that will sterilize the mouth while it is cleaning the teeth.

"The physician in his practice comes in contact with a great many more people than the dentist does . . . and it is for him to teach them oral hygiene as well as general hygiene. . . . They are brought to the bedside of people who have been forced to take their beds in consequence of diseases which have had their origin in a lack of observation of the laws of oral hygiene."—From an address by Dr. T. W. Brophy to the Chicago Odontological Society.

Manufacturers, McKESSON & ROBBINS, :: NEW YORK, U. S. A.

Lysol

USED EVERY DAY IN EVERY HOSPITAL IN OBSTETRICAL AND GENERAL SURGICAL WORK



Fac-simile 2-oz bottle

LYSOL possesses the power of loosening and removing bacteria from the surfaces or structures to which they adhere, because of its soapy character. It dissolves all fats and oils and exposes the germs to its immediate destructive action.

LYSOL has greater antiseptic power than phenol or bichloride; it is non-caustic and relatively non-poisonous, and is therefore safer in the hands of patients than any of the older antiseptics.

For convenience in prescribing Lysol is also put up in two-ounce bottles, retailing at 25 cents.

LEHN & FINK :: NEW YORK

SYR. HYPOPHOS. CO., FELLOWS

Contains the Essential Elements of the Animal Organization—Potash and Lime;

The Oxidising Agents—Iron and Manganese;

The Tonics—Quinine and Strychnine; (each fluid drachm contains the equivalent of 1-64th grain of pure Strychnine).

And the Vitalizing Constituent—Phosphorus; the whole combined in the form of a Syrup with a Slightly Alkaline Reaction.

It Differs in its Effects from all Analogous Preparations;— and it possesses the important properties of being pleasant to the taste, easily borne by the stomach, and harmless under prolonged use.

It has Gained a Wide Reputation, particularly in the treatment of Chronic Bronchitis, and other affections of the respiratory organs. It has also been employed with much success in various nervous and debilitating diseases.

Its Curative Power is largely attributable to its stimulant, tonic, and nutritive properties, by means of which the energy of the system is recruited.

Its Action is Prompt; it stimulates the appetite and the digestion, it promotes assimilation and it enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; hence the preparation is of great value in the treatment of mental and nervous affections. From the fact, also, that it exerts a tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

This preparation can be procured at all chemists and druggists, everywhere.

RELIABILITY

is the one great feature embodied in the quality, uniformity and therapeutic action of

Gray's Glycerine Tonic Comp.

For many years this well-known remedy has been relied upon by the medical profession as an efficient, dependable tonic.

It Reinforces, Restores, Reconstructs.

THE PURDUE FREDERICK CO.
206 BROADWAY,
NEW YORK CITY, U. S. A.

Hunyadi János

The Best Natural Laxative Water

Half a glass on arising gives
prompt and pleasant relief

STIEFEL'S BORACIC ACID SOAP

Forms a splendid smooth lather, has no equal
as a shampoo, and quickly removes dandruff.
Leaves the hair soft, silky, fluffy

AT ALL DRUGGISTS

SCHERING & GLATZ
NEW YORK

PHENALGIN COMBINATIONS

The many physicians who have used phenalgin with marked satisfaction will be pleased to learn that this efficient product is now obtainable in combination with certain well-known drugs. Its use is greatly amplified and the following will suggest many indications which can now be conveniently and efficiently met—phenalgin with quinine and camphor, phenalgin with codeine, phenalgin with salol and lithia, and phenalgin with cascara sagrada. Put up in 5 grain tablets, one ounce bottles, sold by all druggists

ETNA CHEMICAL CO. NEW YORK, U. S. A.

SQUIBB'S

MEDICINAL

CHEMICALS

PHARMACEUTICALS

The STANDARD of

QUALITY

UNIFORMITY

RELIABILITY



THE SQUIBB LINE includes

All the articles of the U. S. Pharmacopœia and National Formulary, and many non-official pure chemicals, alkaloidal salts, etc.

Squibb's Fluidextracts, Tinctures, Syrups, Elixirs, etc., made in strict accordance with official requirements from highest grade materials, those containing alkaloidal principles being standardized by assay.

Squibb's Medicinal Tablets and Hypodermic Tablets contain Squibb products in accurate dosage and full therapeutic efficiency.

PURE CHEMICALS FOR LABORATORY USE



E. R. SQUIBB & SONS

New York

Brooklyn

COLUMBIA UNIVERSITY QUARTERLY

VOL. IX—MARCH, 1907—No. 2

CONTENTS

| | |
|---|--------------------------|
| Portico of St. Paul's Chapel | <i>Frontispiece</i> |
| Medical Ideals and Medical Tendencies | L. EMMETT HOLT 105 |
| A Sketch of the History of the College of Physicians and Surgeons | |
| | FREDERIC S. LEE 117 |
| Samuel Bard, with portrait | WALTER B. JAMES 125 |
| The Department of Clinical Pathology | FRANCIS C. WOOD 133 |
| Medical Education in New York | M. ALLEN STARR 147 |
| The Progress of the Anti-Tuberculosis Movement in New York, JAMES A. MILLER | 154 |
| Teaching Museum for Undergraduates in Medicine, illustrated, | |
| | GEORGE S. HUNTINGTON 159 |
| St. Paul's Chapel, illustrated | W. H. GOODYEAR 160 |
| Dedication of St. Paul's Chapel, illustrated | 162 |
| The Association of American Universities | W. H. CARPENTER 165 |
| George Franklin Seymour, D.D., S.T.D., LL.D., with portrait | J. B. P. 175 |
| <hr/> | |
| EDITORIAL COMMENT | 177 |
| The One Hundredth Anniversary of the College of Physicians and Surgeons—The Quiz System in Medicine—The Clinic in Medical Instruction—St. Paul's Chapel and Hamilton Hall—Change in Date of Commencement—Alumni at Commencement—The Exchange of Professors—Convocation Week at Columbia—Hamilton Hall Supplement. | |
| THE UNIVERSITY | 186 |
| Convocation Week—Prof. Burgess's Inaugural Lecture—The University's Policy toward Athletics—Public Lecture Offering—Professor James on Pragmatism—Academy of Science Election—P. and S. Anniversary Program—Statistics | |
| LEGISLATION | 203 |
| The Trustees: December, January and February Meetings—University Council: December Meeting—Teachers College: January Meeting | |
| STUDENT LIFE | F. W. 206 |
| ATHLETICS | F. W. 207 |
| THE ALUMNI | 209 |
| NECROLOGY | 218 |
| ANNUAL BIBLIOGRAPHY, 1906 | C. ALEX. NELSON 220 |
| INDEX OF OFFICERS CONTRIBUTING TO BIBLIOGRAPHY | 241 |

Columbia University Quarterly

EDITORS

RUDOLF TOMBO, JR., *Managing Editor*

FREDERIC S. LEE, *Editor in charge of March issue*

GARY N. CALKINS

JOHN B. PINE

JAMES H. CANFIELD

JAMES H. ROBINSON

GEORGE R. CARPENTER

HENRY R. SEAGER

VIRGIL H. COBLENTZ

FRANK D. SHERMAN

FREDERICK P. KEPPEL

MUNROE SMITH

GEORGE W. KIRCHWEY

WILLIAM P. TRENT

PAUL MONROE

HERBERT T. WADE

J. L. R. MORGAN

F. J. E. WOODBRIDGE

The QUARTERLY is issued by the Columbia University Press, with the approval of the Trustees of the University, and is addressed to the alumni, officers and friends of Columbia.

The magazine aims to represent faithfully all the varied interests of the University. It publishes historical and biographical articles of interest to Columbia men, shows the development of the institution in every direction, records all official action, describes the work of teachers and students in the various departments, reports the more important incidents of undergraduate life, notes the successes of alumni in all fields of activity, and furnishes an opportunity for the presentation and discussion of University problems.

The QUARTERLY is issued in December, March, June and September, each volume beginning with the December number. Annual subscription, **one dollar**; single number, **thirty cents**.

All communications should be addressed to the COLUMBIA UNIVERSITY QUARTERLY, at Lancaster, Pa., or at Columbia University, New York City. Subscriptions may also be entered and single numbers purchased on the University grounds, at the University Press Bookstore, West Hall.

DRY PEPTONOIDS (SOLUBLE)

A decidedly palatable, highly nutritive and completely soluble food, containing approximately

40% **Protein**, in the form of proteoses and peptones, from Beef, Milk and Wheat.

53% **Carbohydrates**, completely converted (lactose, dextrose and maltose) from the same standard foods.

7% **Nutritive salts** (including a small amount of fats and extractives) in the form of chlorides, lime salts, etc.

No unconverted starch, or indigestible material.

No "Beefy" taste or odor.

Indicated in conditions requiring Nutritive Reinforcement without stimulation, such as Typhoid, Pneumonia, Wasting Diseases and Convalescence.

Dose: A dessertspoonful to a tablespoonful, in water, milk, wine, broths, soups, gruels, or any desirable vehicle.

The Arlington Chemical Co.

YONKERS, N. Y.

Complete analytical data upon request

ALL P & S MEN ARE INTERESTED

IN

Holt's DISEASES OF INFANCY AND CHILDHOOD

By L. EMMETT HOLT, M.D., Sc.D., LL.D., Professor of
Diseases of Children, College of P & S, Columbia University.

Third Edition. With 8 Colored Plates and
241 Illustrations. Cloth, \$6.00 net.

Wood's CHEMICAL AND MICROSCOPICAL DIAGNOSIS

By FRANCIS CARTER WOOD, M.D., Professor of Clinical
Pathology, College of P & S, Columbia University.

With 9 Colored Plates and 188 Illustrations.
Cloth, \$5.00 net.

Hiss's A TEXT BOOK OF BACTERIOLOGY

By PHILIP HANSON HISS, JR., M.D., Professor of
Bacteriology, College of P & S, Columbia University.

In Preparation.

Blake's A TEXT-BOOK OF SURGERY

By JOSEPH A. BLAKE, M.D., Professor of Surgery, Col-
lege of P & S, Columbia University. In Preparation.

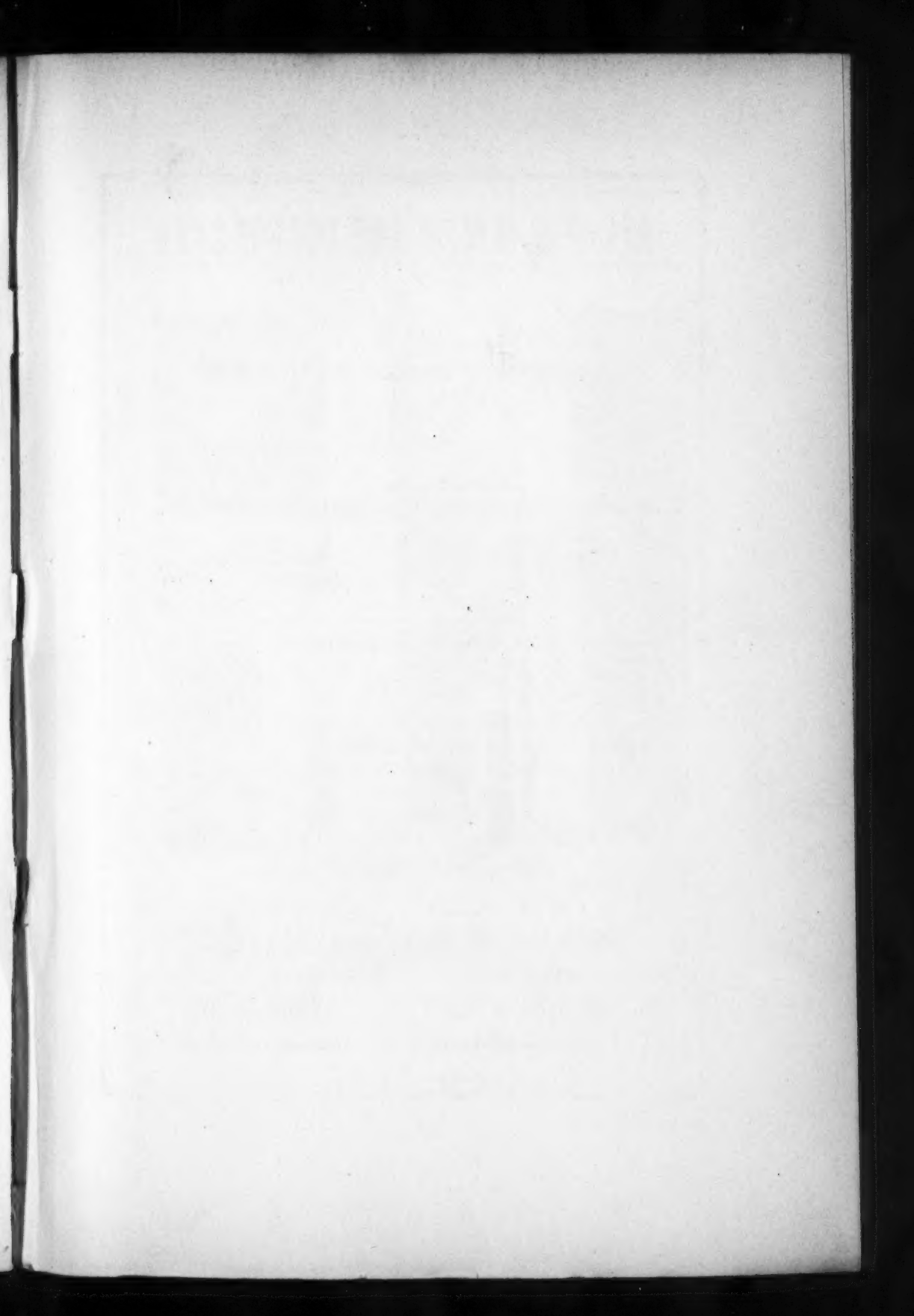
**WE WANT YOU TO KNOW ABOUT OUR NEW
AND FORTHCOMING BOOKS
SEND POSTAL CARD FOR OUR
1907 ILLUSTRATED MEDICAL CATALOGUE**

D. APPLETON & CO.

436 Fifth Avenue,

PUBLISHERS

New York City, N. Y.





PORTICO OF ST. PAUL'S CHAPEL

COLUMBIA

UNIVERSITY QUARTERLY

VOL. IX — MARCH, 1907 — No. 2

MEDICAL IDEALS AND MEDICAL TENDENCIES¹

IN common with every branch of knowledge, medicine has felt the influence of the great advances in modern science. The progress made in the collateral subjects, biology, chemistry, and physics, to which medicine is so closely related, has made necessary a general readjustment of opinion. Slowly but surely the superstition, prejudice and ignorance or half knowledge of the past are vanishing before the light of modern discovery, and almost before our eyes a new science of medicine is being evolved.

The general attitude of our profession today may be characterized as one of scientific skepticism. It receives nothing upon authority, no matter how ancient or honored. It places above everything else the ability to see things as they are, and to draw accurate conclusions from these observed facts. It desires to submit to a fresh examination, by the methods of modern science, every theory or practice and endeavors to make the new view correspond with the latest knowledge. It seeks to establish upon a scientific basis every fact in etiology, every principle in diagnosis, every method of treatment.

Huxley says that one who exposes an old error should be as highly regarded as one who discovers a new truth. We should,

¹ Address delivered at the opening of the College of Physicians and Surgeons, September 26, 1906.

therefore, honor one contributor to medicine as much as the other, for both are needed in the development of our science. In the overthrow of much of the ancient science of medicine, we must not at the same time lose the many valuable contributions of the past to the medical art, none the less real because sometimes based upon wrong theory.

But this same new scientific spirit to which we owe so much has brought with it an incidental peril. While becoming more scientific, there is a great danger that medicine shall become less human. Is it not true, that in magnifying the value of medicine as a science, there has come about incidentally and perhaps somewhat unconsciously, a disposition to depreciate the dignity and importance of medicine as an art?

The men of the laboratory today dominate medical thought. They form a sort of oligarchy, to whose decrees those who study medicine at the bedside only must submit, often with a subconscious feeling of their own inferiority. I cannot myself resist the opinion that the man of the microscope and the culture-tube occupies just now a place of too great importance, at least in the minds of the medical student and the younger practitioner. The laboratory is rendering immense service to practical medicine today, but it cannot do away with the necessity for careful bedside observation of the sick; nor are its conclusions to be regarded with the infallibility which, in the minds of many, attaches to them. The student of today is likely to gain the impression that unless they rest upon laboratory confirmation, all diagnosis is doubtful, all prognosis uncertain, and all therapeutics unscientific. The laboratory has its limitations, which are quite as distinct as those of clinical medicine. It is to be regarded as supplementary; but not as the sole important factor.

I have already said that the important part of the training of a physician is the formation of the habit of making his own observations and of drawing correct conclusions from them. He who flies to the laboratory for a solution of every problem presented in his practice, soon comes to be dependent and neglectful, to distrust his own observations, and finally to undervalue all clinical observations. While, therefore, we appreciate this indispensable aid

in medicine, let us not lean upon it to the weakening of our powers of reasoning and observation. The men of the past who have given us those marvelous descriptions of disease, derived their knowledge from careful personal study with little aid from other sources. Let us see to it that this sort of study does not become a lost art.

The time was when medicine was thought of solely as an *art*, and the *science* of medicine can hardly be said to have existed at all. Until very recently nearly all who bore the title of doctor of medicine were practitioners. Today, there is a constantly increasing number who enter medicine with a view to becoming teachers, investigators, hygienists, public health officials, etc., but our medical education should not be shaped chiefly by their special interests or needs. Even in the aggregate their number is small when compared with the great body of medical practitioners. The lives of this class will be devoted to the care of the sick and injured, which they will do more or less efficiently according to their training and individual ability. For this class the art of medicine possesses an interest and importance which is hardly exceeded by the science of medicine, indispensable as that is. More men fail in the practice of medicine from this inability to understand and manage people, than from their ignorance of medicine, colossal though at times that ignorance may be.

Exactly what do we mean by the art of medicine, and how is it to be studied by one entering the profession? Medicine as a science has to do with disease; medicine as an art, with people suffering from disease. The difference between these two is a very real and important one. The science of medicine the student may learn from books, from lectures, in the laboratory, and in the post-mortem room. The art of medicine, or the manner of using this knowledge, he may acquire to some degree by a study of the ways of successful physicians, but in the main he must learn it through his own experience. In this, his previous general education and training and his experience in and knowledge of the world count for much. The natural gifts that contribute most are tact and sympathy. These qualities are called into requisition every hour of a physician's life. To meet and greet patients properly; to take

a history which shall be at once brief, but accurate and comprehensive; to inquire into the innermost secrets of the private life of a man or woman with such tact and delicacy as to encourage confidence, but not give offence; to announce a prognosis which takes away all hope from an anxious family, in a manner at once honest and sympathetic; to make a physical examination without giving pain or offending the sensibilities of a patient, and at the same time with a thoroughness which the gravity of the responsibility assumed demands; to make local applications in the way which shall cause the minimum amount of discomfort or pain; to combine unpleasant drugs so as to obtain the effects desired without unnecessarily disturbing the stomach or taste of the patient; to give personal attention to the minor details which contribute to the comfort of the person who is ill, even though his disease may be an incurable one, or, on the other hand, not serious:—these are some examples of the physician's art. Gentlemen, they are well worth your time and thought. Besides, we should not omit to mention the treatment of all patients, no matter how humble their station, with courtesy and consideration.

No part of the art of the physician is so essential to success as the ability to inspire confidence. Possibly so fundamental a quality as this should not be called an art; certainly it can never be artificial. While it belongs naturally to some persons, it can, to a degree, be cultivated by all. The qualities upon which it depends should at least be appreciated by every one. While a certain something which simulates confidence may be inspired by the easy-going, optimistic man of plausible speech and sufficient assurance, yet the patient soon distinguishes the actual quality from its imitations. At bottom, the power to inspire confidence rests upon ability and strength of personal character or integrity, and upon nothing else does it long endure. Said a gentleman to me in speaking of James J. Hill, that he never left him without the feeling that he ought to sell everything else that he possessed and invest all in Mr. Hill's properties. Such a power to influence one's fellowmen is valuable in any calling, but in medicine it is indispensable. To be able on short acquaintance, often after but a single interview, to inspire such confidence that a person may be willing to entrust his own

life or that of one of his family to your judgment or skill, is a rare gift. Something of this power must be the possession of every successful physician. With the world at large it counts for more than scientific attainments.

Next to the ability to inspire confidence, must be placed that force of character which is required to make the patient act as we wish him to do, so to influence his will that he will carry out the advice which has been given. Again, if he would preserve the confidence he has inspired, the physician must have discretion in speech. To know the family secrets of an entire community and never by word or look betray them, requires rare judgment and self-control on the part of the physician, and also, we should add, of his wife, whom he too frequently makes his confidant in such matters.

But it is by sympathy more than by any other quality that the hearts and confidence of patients are won. The cold, calculating man, even though he be exact and skillful in his science, has never a warm welcome in the sick-room. To be only "a case," however interesting, and not a suffering fellow being is what a patient particularly abhors, and rightly so. The physician should be hopeful and encouraging without being untruthful, flippant or insincere. He must have a keen sense of appreciation of exactly what it is that people most need in a physician. They call him when they are in pain, in trouble or in alarm. They want, besides physical relief, a certain moral support, some one to lean upon, to allay their fears if they are groundless, as they are found to be quite frequently.

I have dwelt at some length upon the present tendency to ignore the humanities of our profession, and to think too much, or more exactly, too narrowly of medical science and too little of its practical application in real life. My reason for so doing is the feeling that this tendency is growing among us, fostered as it often is by habits acquired through education abroad. One should never forget that the poor as well as the rich have their sensibilities which are often sorely wounded by the thoughtless and inconsiderate way in which they are treated by the physician of the hospital or dispensary. It is certainly true, as has often been remarked, that the poor have always proved the young physician's staunchest

friends; whom he cannot well afford to neglect or offend. The importance to the physician of the virtues of self-control, honesty, frankness, sincerity and of such personal qualities as courtesy, tact and sympathy, should never be underestimated by the young physician, but should be cultivated with the same assiduity as physical diagnosis or operative surgery.

Of the prevailing tendencies in medicine the one most to be deprecated is that to commercialism. It is perhaps not surprising that our profession, in common with other callings, should feel the baneful influence of this spirit of our age. It is only another evidence of the fact that, in the public mind, material and financial success has come to overshadow every other form of achievement. Our times have witnessed many examples of the debauching of the legal profession to attain unscrupulous corporate ends. The law, it is said, has almost ceased to be a profession and has become only a business, adopting business methods and business standards. May this never be true of medicine. It is perhaps not to be expected that human nature should be changed by attaining the dignity of affixing to one's name the letters "M.D." But inasmuch as the traditions of the medical profession are nobler, and its responsibilities more sacred, than those of most of the professions, the more to be deplored is the spirit of which we are speaking.

There are several different ways in which the commercial spirit may manifest itself in medicine. One of the most common springs out of an inordinate ambition for immediate success. It is not natural, it certainly is not desirable, that great professional success should come at once to a young physician just out of his college or hospital. Time is necessary for experience to accumulate and judgment to ripen. He who makes undue haste to succeed shall not be blameless.

One with such ideals before him begins by making the shortest possible cut to knowledge. He often starts in practice as a specialist, and wishes to be known at once as such. He is familiar with the fact that advertising is the secret of success in modern business. That shrewd advertising may bring business in medicine as well as in trade, the success of the numerous charlatans bears witness. But he does not wish to become an adver-

tising quack and see his card in the morning paper. He adopts other devices. He advertises himself to his friends and acquaintances. His wife bends all her energies toward placing him before the public. He cultivates the acquaintance of the newspaper reporter, and soon his name finds its way into the public press. He is interviewed in regard to the prevailing epidemic, or he is credited with performing some remarkable operation, or with some new ideas on the subject of the treatment of tuberculosis. In medical literature, also, his name is often seen. He rarely loses an opportunity to appear at medical meetings and is always ready to discuss the paper of the evening. His written contributions are apt to take the form of a citation of cases in which the newest remedy has been used, whose real purpose is to exploit the remedy and the doctor at the same time, his reward being a check from the manufacturer. His articles are then circulated as the "latest literature" upon the remedy in question. There are other ways innumerable in which the advertising doctor seeks to advance himself. To narrate them is neither profitable nor interesting.

To some, such practices as those described may seem only in bad taste; others, possibly, may regard them as examples of an enterprise almost meritorious. But it is difficult to draw the line as to how far one may go and yet preserve his reputation. Another man, whose moral standards are not quite so high, or whose necessities are greater, actuated by this same motive to get business by every means possible, does not hesitate to take advantage of another physician, or to gain at his expense. He may even be tempted to go to greater lengths and finally end in practices absolutely dishonest.

The man who allows his mind to be dominated by a desire for financial success readily falls into another temptation, that of allowing his professional judgment to be warped by monetary considerations. Such a thing may come about so gradually that the man himself may hardly be conscious of it. A well-known and very successful gynecologist said to me once, that he had reached the conclusion that no man could be strictly honest and conduct a private hospital. This statement, although perhaps an exaggeration, expresses an important truth. The temptation may be great.

The enterprise has imposed heavy financial obligations. It has not proved the success the surgeon had anticipated. The year has been a poor one; rooms are vacant and expenses are continuing. A well-to-do patient seeks his advice. An operation is not necessary, and though at another time the surgeon would not himself have advised it, he finds it easy to do so now, and possibly justifies himself by the thought that many of his colleagues would do the same. Such a step once taken, a similar decision is reached a second time with fewer misgivings, and soon the policy of performing operations without sufficient indications may become his established practice. If not an operative case, the patient may be induced to submit to prolonged but unnecessary and even useless treatment. There is a subtle temptation here for every physician or surgeon whose eye is always upon the almighty dollar; but it comes with increased force to one whose financial needs are great. His vision of right and wrong must be very clear and his ethical standards high not to be biased in such emergencies.

Two years ago I was in attendance with another physician upon the young child of a wealthy merchant, who was seriously ill, and over whom was hanging the possible necessity of a grave surgical operation. The parents were naturally very anxious. When, after one of our consultations, the surgeon had left the house, the father said, "Do you think that man's judgment in deciding to operate would be influenced by the fee he would receive for it?" Happily in this instance, we could say emphatically, "no." Yet I fear there are some of whom we could not speak with the same certainty. This anxious parent expressed a distrust which many others have felt. Conceive, if you can, a condition of society in which such a feeling should be general, or worse still, when it should be justified. What technical skill can ever take the place of moral character in a physician or surgeon. High ethical standards have been maintained in the past by the great body of physicians to a remarkable degree, often in the face of great temptation. Let us hope that the ideals of the physicians of the future be just as high.

There is one other phase of commercialism seen in our day, which may be characterized as "medical graft." This man does not

conceal the fact that he is in medicine for what he can get out of it. With respect to every transaction he adopts the politician's anxious query, "Where do I come in?" His methods are well known. He visits the specialist, the surgeon, or consultant, ostensibly in behalf of his patient, and lets it be known that he expects "the usual percentage" of the fee in case the patient can be persuaded, intimating at the same time that if this be made satisfactory, he will need consultations in the case of other patients, and has other work which he can turn over to the surgeon. The medical grafters of this type I am glad to say are not numerous, but they are, I must believe from my information, increasing rather rapidly.

Such a man may not be at heart dishonest. Let us try and follow his mode of reasoning. He begins by contrasting his own small fees and modest income with those currently reported of the specialist or surgeon. "Why should I not receive a suitable commission for the business I can control? There are plenty of skillful men who are willing to divide their fee with me. The patient is well served. Who then can complain?" Such a man belongs in business, not in a profession. He regards his patient as something in which he has personal or property rights, as a marketable commodity, which he is at liberty to dispose of to his own best advantage. He does not state it to himself in this way, for if he did he would see his error. When such a principle of action is once adopted, the interest of the patient is no longer his chief concern, but his own pocket.

There is yet another form of medical grafter who exacts from the apothecary a percentage of the receipts from his patients. "Perfectly legitimate," he says to himself. "I can command so much business, why should it not be worth something to me?" His chief concern, however, soon is not that his patient obtains the best quality of drugs, accurately dispensed, but that his prescriptions are filled by the apothecary who promises him the largest percentage.

Why have I taken your time to rehearse this unsavory tale of greed and selfishness masking itself under the cloak of professional service? Chiefly, that I may warn those who have not yet begun their professional work of certain temptations they are cer-

tain to encounter. Let those of you who have never felt the pressure of financial straits, be charitable, and let those who have be watchful.

Something more is expected in professional life than in business. Be he lawyer, teacher or physician, not only his first, his whole interest should be that of his client, his student, his patient. The physician starts out in life to serve the needs of his fellow-men, and the better the service he can render, the greater his success; but the moment he comes to place his own interest above that of his patient he is lost. He has yielded to the same temptation as that which has brought disgrace to and wrecked the reputation of many other men in positions of trust and responsibility in the business world.

When Napoleon III. in an interview with Pasteur expressed surprise that he should not try to turn his discoveries to a source of profit to himself, Pasteur replied that in France a scientist would consider that he lowered himself by so doing, that a man of science would complicate his life and risk paralyzing his inventive faculties if he were to make money out of his discoveries; his time would be too much occupied to be free for new investigations.

Such has always been the spirit of the great minds in medicine. Let us be thankful for this *uncommercial* spirit, which has been and is still the glory of our profession; which has given the results of its labors freely and without stint for the benefit of humanity; which has scorned to keep secret any discovery or to protect by patent any operation, instrument or device for the cure of disease. There is no antidote for commercialism like the love for science. If this be preserved, that cannot flourish.

We constantly hear the statement made that medical science is losing its hold upon the public. When one witnesses the extent to which quackery in one form or another flourishes, he may perhaps be disposed to believe that such is the case. However, I am inclined to think that we as a profession get from the public about what we deserve, and if it be really true in any community that medicine is not held in so high esteem as it once was, the principal reason is not lack of skill or scientific training, but departure from the traditions of our fathers and the adoption of lower ethical standards.

It is to me always interesting and instructive to hear persons discuss their family physician. The highest praise which they can pronounce and the one fact upon which they dwell with the greatest satisfaction, is that he can be trusted; that he can always be depended upon to do his best in every emergency, but that he will not take risks in attempting what he is not competent to do. What avail the other qualifications of the physician if he has not been able to establish this feeling in his patient?

The dangers which attend professional life are many. The road to honor and success has many pitfalls which are at times difficult to see and avoid. At the very beginning of his career, the young professional man should definitely settle a few things, such as what is to be his chief aim and what his standard of success. Permit me to suggest for your adoption three general principles or rules for guidance in your professional life. The first concerns your attitude toward your work; the second your relations to your patients; the third your relations to your colleagues in medicine.

The physician's attitude of mind toward his work goes far to determine his enjoyment of it. His cares are many and his responsibilities great; the drudgery of his work soon becomes wearisome, unless in all and through all he can keep his scientific interest in his profession. He must love his work if he would succeed in it. He may not retain through life all of his early enthusiasm, but as long as he lives he should be a student of medicine. It is only this interest, coupled with the thought that he is rendering helpful service, which lifts the practice of medicine above the tread-mill of routine and brings genuine satisfaction and happiness in the midst of arduous labor.

The rule which governs a physician's relation to his patient, although at times difficult of application, may be stated in a few words. The physician should always act in the best interest of his patient. Under no circumstances should he allow self-interest, expediency, or in fact any other motive to influence his judgment or his action. This principle once accepted, he can seldom go wrong; but if a firm stand is not taken at the outset, and if other considerations are permitted to weigh in his mind, little by little he may come to lower his ethical standards until he finds himself

drifting in dangerous waters, where shipwreck is only a question of time or circumstance.

The rules by which the relations of a physician to other members of his profession should be determined, have been in the past a subject of much discussion. At different times various codes have been drawn up which have attempted to formulate proper rules of conduct. The relationships of physicians to one another may be and often are among the most delightful known; whether the members of the profession meet in associations for scientific discussion, or as fellow-workers in the great cause of helping humanity, they form a sort of guild or brotherhood all over the civilized world. There is among them a sympathy, a spirit of fraternalism, which all who have known must pronounce one of the greatest joys of life. Such the physician's relations may be everywhere; such they have always been among the great souls of our profession. But it is humiliating to admit that, owing possibly to the very personal character of the competition in the practice of medicine, the feeling of rivalry between physicians too often predominates over every other sentiment. Even without deliberately intending to do so, they readily yield to the temptation, by unkindly and unfraternal criticism, to undermine the influence and to injure the reputation of their colleagues. In smaller places, particularly, where each man works most of the time by himself, these petty jealousies of physicians are very common, but undignified and unworthy.

Nothing does so much to weaken the influence of the profession as this spirit. The public has no patience or sympathy with it. If the physician's outlook were a larger one, his interest in science greater, this could not endure. He should cultivate a liberal attitude, and, conscious of his own mistakes, be charitable toward those of his fellows. The generous spirit begets generosity; while the man who always stands upon his dignity, ever watchful lest his rights be encroached upon, finds himself with a grievance most of the time. In all his intercourse with others of his profession there is only one rule for the physician's guidance, namely, to act toward them as he would wish them to act toward him.

I have pointed out some of the tendencies and alluded to some of the dangers which today threaten medicine as a profession. Its

future glory or shame rests largely with you who are the students of today. See to it that you always stand for the dignity and honor of your profession. If the physician's life is a strenuous one, its rewards are many and are within the reach of every one who with diligence and unselfishness will seek to serve his generation. It is the law of the moral universe that there are no short-cuts to knowledge, no such thing as ready-made experience, and no counterfeit for character. Real and lasting success rests now as always upon honest work and personal worth; or, as Lowell has put it,

God's price is high; but nothing else
Than what he sells, wears long.

L. EMMETT HOLT

A SKETCH OF THE HISTORY OF THE COLLEGE OF PHYSICIANS AND SURGEONS¹

WHEN the College of Physicians and Surgeons began its existence one hundred years ago, the times were ripe for its birth. The vigor of the young republic was asserting itself. Its citizens, conscious of its problems, were eager to solve them. Of those problems none was more important than that of education. The twenty-five years following the peace of Paris were full of educational activity, and one phase of the latter was the inauguration of training for the learned professions.

The City of New York was rapidly becoming a medical center. The New York Hospital, the Lying-in Hospital, the New York Dispensary, the *Medical Repository* (the first medical journal for

¹ The present paper is largely an abstract of a longer article by the writer, entitled "The school of medicine," in "A history of Columbia University, 1754-1904, Published in commemoration of the one hundred and fiftieth anniversary of the founding of King's College," The Columbia University Press, New York, 1904. More comprehensive histories of the college are those of John C. Dalton: "History of the College of Physicians and Surgeons in the City of New York," published by order of the College, New York, 1888; and John Shrady: "The College of Physicians and Surgeons, New York, and its founders, officers, instructors, benefactors and alumni: A history." The Lewis Publishing Company, New York and Chicago, 1903.

the publication of original articles to appear in America), and the Medical Society of the County of New York, were established. Private medical instruction was carried on even so far as to lead to the establishment of private schools. But the need of a well organized and well equipped medical college was constantly felt. Even before the Revolution, King's College—by which name the later Columbia College was then known—had recognized such a need, and in 1767 had founded the second school of medicine to be inaugurated in the new world, only two years after the foundation of the medical school of the College of Philadelphia, the fore-runner of the University of Pennsylvania. In conferring the degree of doctor of medicine upon Robert Tucker and Samuel Kissam in 1770 and 1771, respectively, King's College antedated all other colleges in America in giving this degree in course. The war of the Revolution closed King's College and its medical school, and although the latter reopened in 1784 and continued for the succeeding twenty-nine years, it did not occupy a leading position. This first venture in professional training in medicine was, however, most valuable in paving the way for its successor. In 1807 the newly organized and active Medical Society of the County of New York, which already possessed the power of examining students and granting licenses for the practice of medicine, memorialized both the legislature and the regents of the university of the State, praying for incorporation as a college. A charter dated March 12, 1807, was promptly granted by the regents, establishing in the City of New York the "College of Physicians and Surgeons" "for the promotion of medical science and diffusing the knowledge of the healing art." From the day in November of the same year when the doors of the college opened in a house in Robinson Street, now Park Place, with fifty-three students, it has always occupied a prominent place among the medical schools of this country.

Its first teaching body was as follows: Nicholas Romaine, president, and lecturer on anatomy; Samuel L. Mitchill, vice-president, and professor of chemistry; Edward Miller, professor of the practice of physic and lecturer in clinical medicine; David Hosack, professor of materia medica and botany, and lecturer on surgery and midwifery; Archibald Bruce, registrar, and professor of min-

erology; Benjamin De Witt, professor of the institutes of medicine, and lecturer on chemistry; and John Augustine Smith, adjunct lecturer on anatomy. Nearly all of these men had received their medical training, in whole or in part, in the leading schools of the old world. They represented much of the best in the medical and scientific circles of the day, and they entered upon their work with the enthusiasm of pioneers. That they recognized the scientific basis of medicine, is seen in the titles of some of the chairs— anatomy, institutes of medicine, which comprised both physiology and pathology, chemistry, materia medica, botany, and mineralogy. The last two have long since passed from the curriculum, but in one guise or another the rest still remain. Besides the two essentials, practice of medicine and surgery, the only specifically professional branch represented was midwifery, which, to the elaborately trained student of today, seems little enough. Of Dr. Hosack's chair we may say with Dr. Holmes, "I called it a chair—it was rather a settee of professorships." The annual course of study was of four months' duration, lasting from the first day of November until the first day of March, and was supplemented by certain optional lectures in zoology, botany, chemistry, and mineralogy during the spring months. Instruction was given almost entirely by means of lectures. Of demonstrations there were few, and of practical work, except anatomical dissection, which was not required, there was none, either in the laboratory or in the clinic, for neither of these institutions existed. Even at this early date, however, there were certain opportunities for hospital study, for the New York Hospital, the Alms House, and the Lying-in Hospital allowed the students of the college to attend the hospital practice of their professors. At least two years of study were expected before graduation.

The first class completed its course in 1811, when degrees were conferred upon eight candidates. The same year was notable also for the induction into office as president of the eminent Dr. Samuel Bard, who had been the physician of George Washington and a former dean of the medical faculty of Columbia College. Two years later occurred an event of first importance,—namely, the absorption of the entire medical faculty of Columbia College, a union which more than doubled in number, and greatly increased in

strength and prestige the teaching body of the school. Among the new acquisitions were Wright Post, joint professor (with Dr. Smith) of anatomy, physiology, and surgery; and Valentine Mott, professor of the principles and practice of surgery; while at about the same time John W. Francis became professor of materia medica. The ten years of Dr. Bard's presidency were golden years. A faculty of strong men; a student body of more than two hundred, drawn from all parts of the United States; an enlarged home in Barclay Street; an improved charter, making the faculty virtually the governing body, were conditions of prosperity and progress.

But success within the institution brought on envious suspicion and criticism from professional rivals without, and there followed contentious years, culminating in the resignation of the faculty and a reorganization. Prominent among those then called to become instructors were John Torrey, in chemistry and botany,—a representative of the best type of the scientific man of his day; Alexander H. Stevens, in surgery; Edward Delafield, in obstetrics and diseases of women and children; and Joseph M. Smith, in practice. A few years later came Robert Watts, in anatomy and physiology; the distinguished Willard Parker, in surgery; and Chandler R. Gilman, in obstetrics and diseases of women and children. The college had now largely recovered from the untoward results of the previous discord and entered upon a long period of prosperity and growth. Optional spring and autumn courses were inaugurated to supplement those of the regular winter session. Soon the curriculum was lengthened from four to four and one half months. Through the efforts of Dr. Parker an important step was taken in 1841 when a general medical and surgical clinic was inaugurated at the college building as supplementary to bedside instruction in the hospitals. This feature has ever since existed; the system has been gradually extended and has proved one of the most prominent elements in the success of the institution. In 1849 Bellevue Hospital was reorganized and clinical facilities were obtained therein for the students. In 1853 practical work for the students in obstetrics was inaugurated. During the presidency of Alexander H. Stevens—from 1843 to 1855—Alonzo Clark, fresh from postgraduate study under the leaders in pathology in Paris,

joined the staff of instructors in the newly created chair of physiology and pathology; and John C. Dalton, who may rightly be regarded as having introduced into America from Claude Bernard the experimental method in physiology, was called to occupy a chair of physiology and microscopic anatomy. These two events signaled the advent of modern pathology and physiology.

The gradual northward march of the college was halted in 1856 at Twenty-third Street and Fourth Avenue in the enlarged building which served as the home of the institution for more than three decades, and allowed of expansion in many directions, especially in that of practical instruction. The demonstrative teaching of anatomy, physiology and chemistry was increased, the number of college clinics was soon more than trebled, and instruction in the various medical specialties was gradually inaugurated. The annual curriculum was lengthened from four and one half to five months. The college now proceeded to sever its relations with the regents of the university of the State, in order that it might enter into an alliance which in the course of years has shown itself to be all important. This was the union with Columbia College. It was formally ratified in June, 1860. The union was destined to continue for years as a nominal one; each institution was to retain its own autonomy, continue to hold its own property and to manage its own financial affairs, and to be in all essential respects independent of the other. The diplomas of the medical graduates were to be signed, however, by the two presidents respectively, who were to be present at the conferring of the degrees. The College of Physicians and Surgeons, while retaining its own title, was thereafter known officially as the medical department of Columbia College. Columbia thus took under her mantle the institution in whose interests, in 1813, she had sacrificed her own medical faculty. The alliance was the foreshadowing of the closer union which was to come thirty years later when Columbia was being transformed from a college into a university. During the period of the civil war and the years immediately following it, numerous hospitals were built in the city, and clinical opportunities for students correspondingly increased. In 1866 the number of students amounted to four hundred and sixty-five.

An event of especial historic interest was the establishment, in 1878, by the Alumni Association, of a student laboratory for purposes of instruction, especially in pathology, with Francis Delafield as its director. This was the first step made by the college toward providing laboratory facilities for its students.

The annual course had now been lengthened from five to seven and one half months. The teaching body had become greatly enlarged by the appointment of many active young men, the number of students had surpassed five hundred, and the resources of the college were taxed to the utmost. The presidency of Dr. Dalton witnessed momentous events. These were the acquirement of the present site in West Fifty-ninth Street, the erection of buildings surpassing at the time those of any other medical school in the United States in spaciousness and adaptability to their uses, the removal of the college to its new site, and an extension of its work beyond all previous records. These events were made possible through the generosity of Mr. William Henry Vanderbilt and his children, who provided sufficient funds for the erection of the main college building, the Vanderbilt Clinic, and the Sloane Maternity Hospital. The college removed to its new quarters in 1887. Though the opportunities for expansion had seemed great when the college entered upon its work in Twenty-third Street, they were small compared with those that were made possible in its new home. The course was lengthened to eight and one half months; a third year of study was added—a change which led to the disappearance of the time-honored student's preceptor; the teaching staff was augmented in number; former courses were elaborated and perfected and new courses were inaugurated; demonstrative teaching was made more prominent than ever before; practical work in laboratories and clinics was greatly augmented and made obligatory for all students; opportunities for investigation were offered, especially in physiology, through the establishment of the Swift physiological cabinet, and in pathology; and apparatus, instruments, models, demonstration and museum specimens, and all that constitutes the material outfit of a well equipped medical school, were provided. The college was thus enabled to take a position of leadership in the medical world which it had never before held.

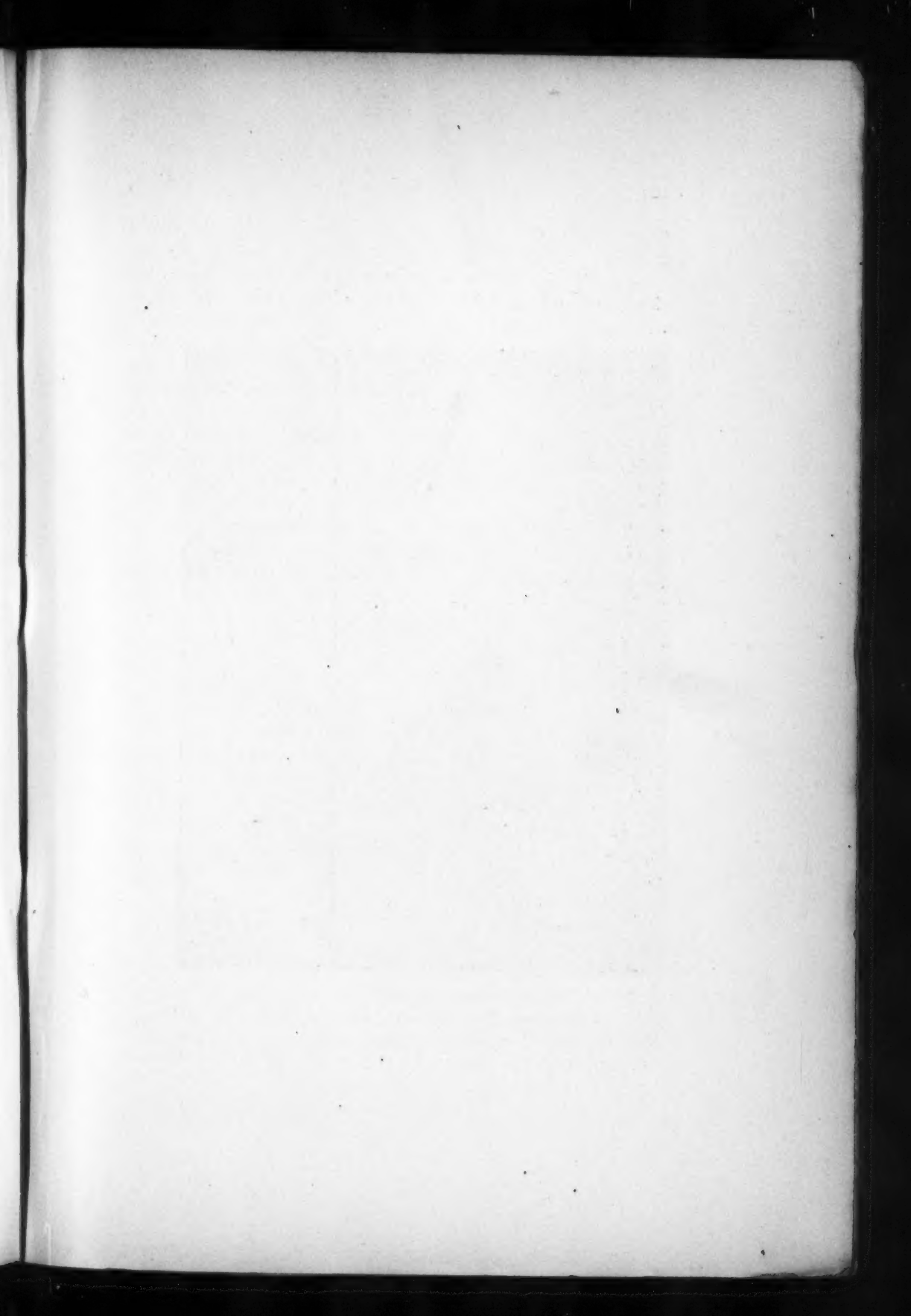
In 1891, under the presidency of Dr. McLane, the culminating action was taken which was to place the college on an academic basis befitting its professional status. Although nominally the medical department of Columbia College, it was still a proprietary institution. Columbia, under the enlightened leadership of Mr. Low, was undergoing the transformation that was destined to result in the making of a great university. It was only natural that the thought of a fusion of the two institutions should arise within both and that the thought should lead to action. After many conferences over the details of the proposed merger, the final step was taken in November, 1891, the College of Physicians and Surgeons transferring its property to the trustees of Columbia College and becoming an integral part of the latter.

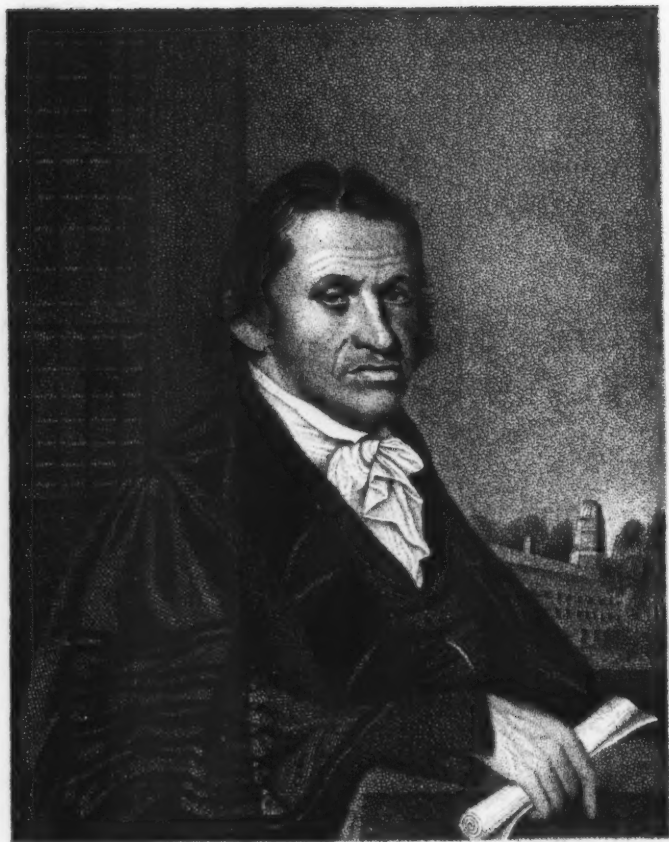
The higher rank which the school of medicine thus assumed imposed higher obligations, and during the fifteen years that have elapsed since the merger, the school has endeavored to fulfil these. In 1894 a fourth year was added to the course, thus quadrupling within fifty years the time demanded of the student. This involved a thorough reorganization of the curriculum, with the object of enabling the student to devote the first two years mainly to the more broadly scientific branches, the last two to those technically medical. The teaching body has been greatly enlarged and now surpasses two hundred. The requirements for admission have been materially increased. The governing body, or faculty in the technical sense, which had consisted for years of a representative from each of the seven time-honored medical chairs, has been increased and now includes the professors of anatomy, physiology, physiological chemistry, pathology, clinical pathology, bacteriology, pharmacology and therapeutics, applied therapeutics, practice of medicine, surgery, clinical surgery, neurology, obstetrics and gynecology, clinical obstetrics, and diseases of children. "The salient features in the method of instruction are thorough laboratory training, frequent demonstrations, clinical teaching in the operating theaters and at the bedside, as well as in the dispensary, with recitations and didactic lectures to elucidate the many problems confronting the student." Laboratory work is required of the student in normal anatomy, normal and pathological histology, embryology, bacteri-

ology, physiology, physiological chemistry, pharmacy, and clinical pathology, while an optional laboratory course exists in pharmacology. Practical courses are given either at the hospitals or at the clinics in medicine, surgery, obstetrics, gynecology, diseases of children, neurology, genito-urinary diseases, laryngology, ophthalmology, otology, dermatology, and orthopedic surgery. In all of these the students meet the patients, make physical examinations, diagnose the diseases, outline the treatment, and in many of the hospital cases watch the course of disease from day to day. The work in obstetrics is performed at the Sloane Maternity Hospital, where each student resides for two weeks and is on duty day and night. In harmony with this great extension of the practical component of the instruction the didactic is relatively less prominent than formerly. The formal lectures are less comprehensive, and the acquiring of details is left more to the laboratory, the clinic, the hospital, and the text-book with its necessary correlative, the official quiz-master. In recent years the private quiz, which, with its attendant evils had long been a growing incubus upon the student, has been rendered largely unnecessary by the establishment of a system of official recitations.

With all this development of a highly intensive and complex system of instruction, the scientific spirit, which is one expression of the modern university spirit, has spread through the institution. A university aims not only to transmit, but to augment knowledge, and this aim permeates the present school of medicine. Its laboratories and its clinics are not simply places for instruction, but have become important centers of research; not only are future practitioners there educated, but future investigators are nurtured, and the scientific medicine of tomorrow will gain from the broad spirit of scientific inquiry which animates the college of today.

As it stands now at the end of its first century, the College of Physicians and Surgeons can look back over its record without regret and without shame. It has been conspicuous in the annals of professional education and of medical progress. Its heritage from the old world has been great, but it has not been shackled by tradition and it has lived to instruct the old-world teachers. Through its officers and host of graduates, to the world at large it





SAMUEL BARD
M.D. (HON.) 1768

has proved a mighty force. The honorable past of the college is already achieved, and under the inspiration of the University a still more honorable future is assured.

FREDERIC S. LEE

SAMUEL BARD

IN a few months will occur the one hundredth anniversary of the foundation of the College of Physicians and Surgeons, the second school of medicine to be established in America. In the present era of medical education in New York, there is much interest and much instruction to be found in the lives of those responsible for the founding of the earliest medical schools. Their ambitions, their early struggles to place the infant institutions on a permanent basis, their failures and persistently renewed efforts, and especially the hearty cooperation and assistance of the community in which they labored—all deserve to be from time to time called to mind.

In the earliest efforts to establish a medical school in New York, no one took a more prominent and important part than the subject of this sketch. Samuel Bard was an eminent and successful physician; his name was known throughout the American colonies, where his sturdy virtues were thoroughly appreciated. He wrote books which were helpful to his contemporaries, but which now lie covered with dust and undisturbed on the topmost shelves of medical libraries. His theories of disease have long since been proved incorrect, and the methods and remedies that he used have for the most part been abandoned, giving place to better ones. Even his marked personal peculiarities no longer belong to the traditions of the present generation of physicians. His name, however, lives and always will live, associated with what can never become out of date or be forgotten, the cause of medical education and of hospital service. However the methods of medical education may have changed, no matter if the physical sciences have come to the front with overwhelming force, and the laboratories and clinics have revolutionized medical teaching since Bard's day, yet he and Morgan and Warren, devoting their lives, each to the

founding of a medical school in his own city, have laid posterity under a heavy debt of gratitude.

John Morgan of Philadelphia, Samuel Bard of New York, and John Warren of Boston belonged to a group of earnest, ambitious young physicians who matured in the period just before the Revolution. At that time to seriously take up the profession of medicine meant of necessity to study it abroad; and therefore not only was the number of such aspirants limited, but only those with considerable preliminary education and with the most serious purpose were tempted to engage in it. There was also required material means sufficient to maintain the student during his period of study in one of the educational centers abroad.

But during this period those who were not possessed of the above facilities, and who desired to enter the profession of medicine generally apprenticed themselves to some practitioner, and for a variable period acted as his clinical assistant. When in his judgment the pupil was sufficiently advanced, he was given an informal personal certificate of efficiency, amounting merely to a letter of recommendation, and, armed with this, the aspirant started out in the practice of medicine. As a result of this the majority of those who passed as physicians in the community were but poorly fitted to care for the ills of their fellowmen, and the number of properly qualified practitioners with regular degrees was relatively small.

It has been estimated that at the outbreak of the Revolutionary War there were in the Colonies more than thirty-five hundred practicing physicians, and of these not more than five hundred held medical degrees. It is natural, then, that the three that I have mentioned above, while studying in Europe, should have had before them constantly the urgent necessity of the establishment of such schools of medicine in America as should render it possible for students to acquire a knowledge of the profession at home; and subsequently each one of them undertook in his own city the founding of such a school.

To Dr. John Morgan belongs the credit of the first school of medicine to be established in America—that of the College of Philadelphia, now the University of Pennsylvania, which was established in 1765. In 1767 the second school in the Colonies was

organized as the medical school of King's College, New York, and Dr. Bard deserves much of the credit for this. The Harvard school was established in 1783 as a result of the efforts of Dr. John Warren.

Samuel Bard was of French ancestry, his greatgrandfather having fled from France on the revocation of the Edict of Nantes. His father, Dr. John Bard, was born, lived and practiced at Burlington, New Jersey, where the son Samuel was born in 1742. When the latter was four years of age, the father moved with his family to New York in order to seek a wider field for his abilities, which were very considerable, and here he continued the practice of medicine with marked success.

Samuel Bard was taught first in a private grammar-school, and then, after a period of rest from study on account of impaired health, he entered King's College, where he finished his classical studies at the age of nineteen. He was never as a boy distinguished for unusual precocity, but rather for seriousness of purpose and rare good judgment.

Having decided to follow his father's profession, it was found necessary to leave the Colonies, and fortunately his father's professional success had been sufficient to provide the means for giving him the best education then obtainable. The University of Edinburgh was selected, and here he was entered and remained until he graduated in 1765. Edinburgh at this time enjoyed the highest repute as the center of medical education, and Bard's teachers were among the foremost and most stimulating physicians of the day. Among them he numbered the two Munros and Cullen. It is evident from his letters to his father that he fully appreciated the advantages that were offered him, and worked with the utmost diligence and perseverance.

While in Edinburgh he made the acquaintance of other young Americans who were destined to play an important part in the development of medical schools in America, and especially he here acquired an understanding of the fundamental dependence of schools for the teaching of medicine upon hospitals. So we find him in December, 1762, writing from Edinburgh to his father announcing that Shippen, Morgan and others are about to start a

school of medicine in Philadelphia, and suggesting the advisability of founding one in New York under the auspices of King's College. He writes: "I wish with all my heart they were at New York, and that I might have a share amongst them, and assist in the founding of the first medical college in America." He then goes on to briefly outline his own plan, and suggests to his father to mention the matter to Dr. Johnson, the venerable president of King's College. The father in reply to this letter says:

I much approve of your emulation with respect to the establishing of a proper medical institution in this city; but I believe that it should be commenced by a public hospital, which Dr. Tennent will inform you I had thoughts of beginning.

Thus early was the interdependence between medical schools and hospitals understood in New York.

After graduating in medicine in Edinburgh, Bard spent the winter in London attending in Guy's and St. Thomas's Hospitals. He then made a brief tour of the continent, part of his time being spent in Leyden, where he fell under the influence of Boerhaave, by whose learning and character he was much impressed, and who served him as a model in his future professional life.

He finally arrived in New York, having been away from home for five years, but having used this time evidently to the very best possible advantage. He at once entered into practice, and through the good offices of his father, whose large acquaintance and whose excellent standing in the community were of great value, he soon became comfortably established. From this time on, however, Bard's life and the lives of the medical school and the hospital became closely interwoven.

The establishment of the first school of medicine in New York City was marked by considerable turbulence and many vicissitudes. In 1767, two years after Bard's return from Europe, a medical school was organized under the direction and government of King's College, its faculty made up of many of the best known physicians and surgeons in the city, and among them Samuel Bard, to whom was assigned the chair of the theory and the practice of physick, and there is reason to believe that the establishment of the institution was due in large measure to his energy and persistence.

At the graduation exercises in 1769, the address was delivered by Dr. Bard, who plead eloquently for the establishment of a public hospital, and so clearly did he demonstrate the usefulness and indeed necessity for such a foundation—both from the standpoint of public charity and for the furtherance of medical education—that on the very same day a subscription was well started towards this object, which in a short time resulted in the founding of the New York Hospital. Bard was at once appointed visiting physician, and continued in this position until his retirement from the city and from practice.

The infant medical school had barely become established when the outbreak of the Revolutionary War caused a cessation of its activities. The faculty and students were scattered, and the college building was appropriated by the British and used as a military hospital.

During the Revolution Dr. Bard was a royalist. Although a progressive and loyal citizen and in sympathy with most of the aspirations of the Colonies, yet his recent long stay in Scotland and England, and the sense of indebtedness that he felt to the mother-country where his medical education had been obtained and where he numbered so many friends, all made it impossible for him to give up his former allegiance. His father had already given up practice and settled on an estate which he had bought at Hyde Park on the Hudson, and here Dr. Bard sent his wife and children, while he remained in the city trying to continue his practice in the effort to support them. But the life of a royalist physician in New York City during those days was not an easy one, as he found to his great discomfort, and soon he went to New Jersey, and then rejoined his family at Hyde Park.

A dislike of idleness, however, and the urgent need of securing an income drove him back to the city. Now, thanks to the kind offices of his friend and patient, Mr. Matthews, the mayor of the city, he escaped threatened arrest, and soon began to find occupation. His undoubted skill and his generally acceptable qualities as a physician soon gained for him a satisfactory clientele in spite of some political opposition and recrimination, and when Washington indicated his confidence by selecting him to be his family physician

during his stay in New York, Dr. Bard might fairly be regarded as reestablished.

Soon after the declaration of peace an effort was made to reopen the medical school, but it did not meet with success. King's College had now become Columbia College, and being ambitious to possess a school of medicine, it was decided to resuscitate this department. The organization of it was given to Dr. Bard, who was appointed dean, but the attempt was never markedly successful. The reasons for this failure are not entirely apparent, but probably in the period immediately following the Revolution, the rapid growth of the city and the need for readjustment of business affairs following the struggle, made it an unfavorable time for the founding of new academic enterprises.

From 1792 to 1813 only about twenty-four students were given diplomas in medicine. During this time Dr. Bard had built up an extensive and lucrative practice, and had become a person of importance in the community, not only as a physician but also as a good citizen, interested in all public matters and distinguished especially for the soundness of his judgment. The New York Hospital, too, after early vicissitudes, had prospered and was now a thriving institution, doing a valuable service under the guidance of Bard and other competent and interested physicians and surgeons. He was one of the founders of and physicians to the city dispensary, and an active and early member of the State Agricultural Society. He was also one of those who helped found the first public library.

In 1798, having accumulated a moderate competence and desiring to enjoy a rest from his labors and gratify his fondness for country life, he bought a farm at Hyde Park near his father's home, and moved thither with his family. From this time he never resumed active practice in the city but kept in close touch with its affairs through frequent visits, and continued to hold various positions there. Before retiring he had taken into partnership Dr. David Hosack, then a promising young physician, and to him he assigned his practice. Occasionally thereafter when Hosack was called from the city, Bard would take his place.

In 1791 an act had been passed empowering the regents of the

University of New York to establish a college of physicians and surgeons in New York City, but no advantage had been taken of this,—apparently because of the belief on the part of the regents that the medical school of Columbia College would fill all the need that existed. When the failure of this enterprise became evident, the regents in 1807 secured a new charter, and in this year established the College of Physicians and Surgeons, the institution being organized on May 5, 1807. During the next four years this school prospered, but gradually dissensions arose in the faculty, and in 1811 Dr. Samuel Bard was made president. From this time the College of Physicians and Surgeons has enjoyed an almost uninterruptedly successful career.

In 1813 a union was brought about between the languishing medical school of Columbia College and the College of Physicians and Surgeons, incorporating many of the faculty of the former in the faculty of the latter. There is little doubt that the merger of the College with Columbia, which has only recently been perfected, was one of the favorite dreams of Dr. Bard, and, indeed, in his early letters from Edinburgh he emphasizes the necessity of having the new medical school an integral part of King's College.

During his period of active medical life, Dr. Bard was busily engaged in a most exacting practice but always found time to give much attention to his duties as a teacher, and he never under any circumstances neglected his hospital visit. As president of the College of Physicians and Surgeons, he took no active part as a teacher, but from his retirement in the country and through occasional visits to the city, he presided over the general affairs of the institution, and acted as adviser,—one of the principal duties being the administration of the oath and the bestowal of diplomas upon the graduates. These functions he continued to perform with a dignity and impressiveness that, according to the testimony of contemporaries, added much charm to the commencement exercises.

He died on May 24, 1821, in his eightieth year, full of honors and enjoying the respect of the entire community. The death of his wife, the constant and earnest partner in all his labors, occurred twenty-four hours before.

Bard was not a prolific writer. He seems to have found the

practice of medicine and the organization of the hospital and the school more congenial tasks than those of authorship, and surely the result has shown that he chose the more enduring monuments. Besides a few papers that he published on topics of contemporary professional interest, his chief work is a treatise on obstetrics, which served a useful purpose for a number of years, passing through numerous editions and being extensively used. This he composed in his hours of leisure after retiring to the country.

Samuel Bard's claim to the gratitude of posterity rests chiefly upon the impulse that he gave to the establishment of two of the best institutions that can be founded in any community—a hospital and a school of medicine. To his incentive chiefly, and especially to his inspiring address in 1769, was due the founding of the New York Hospital, and it is interesting to read in the records of the governors of the hospital of June 5, 1821, their minute passed upon receiving notice of his death, and containing these words:

The Governors receive with unfeigned regret the account of the decease of their late fellow member of this corporation, Dr. Samuel Bard.

It is due to the memory of that physician and philanthropist, to state, that by means of his benevolent exertions, in the year 1769, setting forth in a public discourse the benefits to be derived from the establishment of a hospital in the city, the present institution was originally founded; that for a number of years, amidst the arduous avocations of an extensive private practice, he performed with an unceasing fidelity and punctuality, the duties of a physician to this establishment, and was the means, under Providence, of extending its usefulness, and of elevating its character, not only as an asylum for the sick poor, but as an important means of promoting medical education in the city.

It was in large measure owing to him that the first medical school was founded in New York—a school that paved the way for the establishment of the College of Physicians and Surgeons, an institution which under his able guidance began a career which has resulted in so many years of honorable and productive existence. It is especially among his many claims to our admiration that he so early recognized the value and importance of the collateral functions and duties of hospitals, namely, to offer an oppor-

tunity for the prosecution of studies into the nature of disease, and a field for the instruction of students in the principles of medicine in order that they may go out and better serve the people, and it is to be hoped that this enlightened view of the secondary uses and duties of these institutions will always prevail.

WALTER B. JAMES

THE DEPARTMENT OF CLINICAL PATHOLOGY

THERE are few of us who can not recall with affection and respect some general practitioner of the earlier days whose kindly smile was of comfort to the inmates of a house, whether sick or well. The low chaise in which he made his rounds is a part of the picture; the well worn leather case with its magic row of bottles filled with powders, most of them of nauseous taste if my memory serves me; the square of white paper on which he deposited a little mound of something, first from one receptacle, and then from another, the whole to be finally dumped into a teacup of hot water and covered with a saucer; then doses innumerable from this same cup: who can not conjure up such a picture of his first attack of fever?

Let us pause for a moment to consider how such a physician made his diagnosis. If we analyze it closely we find that it was made chiefly by the observation of superficial symptoms; partly by what we may call intuition, which is only the crystallized experience of years of study; partly by common sense; partly by knowledge of what we may describe as the patient's constitution, a term practically synonymous with hereditary tendencies; while a portion of the diagnosis as now looked at from a broader point of view must have been based on erroneous theories and inadequate ideas which had no foundation in experience or in knowledge of the pathology of disease. The means at his disposal did not permit any great penetration beneath the surface of things, facts were not at hand to enable him to interpret what he might have seen but could not understand. Not only did he lack instruments of precision but he could not then have had the knowledge which would have enabled

him to use them, for such knowledge was not in existence. No thermometer was placed in the frightened child's mouth; no elaborate analyses were made on fluids hastily collected in an old bottle; no fingers were pricked for a study of the blood; no stethoscope aided the well trained ear; no blood pressure apparatus replaced the erudite touch of the finger; a microscope did not adorn the office table. Even the baby was not lulled to sleep by a learned discussion of milk formulæ and percentage cream. And yet many of us seemed to get well, or at least have lived to tell the tale; an evidence perhaps of the truth that increased knowledge of the science of medicine does not necessarily confer a corresponding power of healing.

Yet if we turn from the pleasanter memories to the other side of the picture, who can not remember the terrors of diphtheria, the constant fear of tracheotomy; the helplessness of the physician in the presence of a rapidly fatal disease whose inroads could not be checked? Those were the days when typhoid was a serious and apparently unavoidable disease; when malaria was difficult, not only to cure but to diagnose; when a tumor was a death warrant. Today the diagnosis of diphtheria is rapidly made in the laboratory. Antitoxin has reduced the death-rate to a fraction of what it was twenty years ago; intubation has replaced the knife; and the child is not released from quarantine until cultures have shown that the germs have disappeared from the throat and the patient is no longer a menace to the community. The final diagnosis of typhoid fever is often made in the laboratory; the source of the infection, be it drinking-water or food, is traced by the bacteriologist, and an epidemic of the disease has come to be regarded as a demonstration of municipal incompetence. The examination of the blood of a malarial patient affords the most certain clue to diagnosis and treatment. Tumors are classified into those which do no harm and those requiring immediate removal. Every life saved from the ravages of cancer is a tribute to the microscopic study of the body tissues. The change is largely due to laboratory methods of approaching the problems, for even the intubation tube was perfected only after many anatomical studies had shown the proper form and size of tube to be employed.

If we look back further than a century, our knowledge of the ways of physicians in diagnosis must be drawn in part from contemporary prints or paintings, many of which are bitter caricatures, but none the less instructive and valuable as relics. Nowhere are these methods better shown than in those minute studies of contemporary life preserved in the paintings of the Dutch school of artists, and one who has wandered through the great galleries of Antwerp, Amsterdam, and the Hague, can recall many touching and beautiful scenes of medical consultations, though hanging close by may be some scathing caricature of physician, surgeon or quack. In those days, if we may judge from the artistic records, the division between the three was not always as definite as at present. The chief method of diagnosis then employed seems to have been, at least in the Low Countries, to feel the pulse and examine the urine. In many pictures, the physician is depicted holding up a Florence flask of this fluid for study. The English artists, Hogarth and Rowlandson, often show another phase, that of diagnosis by taste, and it is of interest to recall in this connection that the rediscovery of the presence of sugar in the urine in diabetes was first made by this means in England, though the fact had been known and forgotten in India a thousand years before.

It is certainly extraordinary that the art of medicine could have reached such an advanced stage as it had by the beginning of the last century, without the application of any instrument of precision except the microscope. The older physicians made such careful studies of the symptoms and course of disease that but little can be added to some of the classic descriptions of the eruptive diseases published a century ago. Their methods, however, were chiefly objective and could result only in description and classification on a basis of outward signs.

The use of percussion and the invention of the stethoscope marked the first great advance in the study of the diseases of the heart and lungs. At a much later date the vocal organs became accessible to investigation by the introduction of the laryngeal mirror by a teacher of music; while the ophthalmoscope, the invention of a teacher of physiology and physics, enabled the physician to explore the inner regions of the eye. The adoption of both of the latter in-

struments is an example of the way medicine had begun to borrow from workers in the collateral arts and sciences.

In the early part of the nineteenth century, a botanist pointed out that plants were composed of innumerable particles or cells, and the application of this discovery to the tissues of the body laid the foundations of cellular pathology. Then the science of medicine began the remarkable growth which has continued to the present time. Cells have been to the pathologist what atoms are to the chemist.

How short is the interval which has elapsed since those days is shown by the fact that one of the first men to take up the new "cellular" theory was Virchow, whose life work ended not five years ago. During the life of one man, then, greater advances have taken place in our understanding of the nature of disease than in all the centuries before.

As in all other sciences every such advance has been preceded by a slow period of accumulation of apparently unimportant facts until, finally, the key to the problem is obtained and we stand and wonder at the simplicity of the whole matter. The space of years or centuries may, however, lie between the first few fragments of knowledge and the final solution. Bacteria, we may recall, were first seen by Leeuwenhoek about 1675; they were noted by Delafond in the blood of an animal dead from anthrax, in 1838, and again by Rayer and Davaine, in 1850; but it was not until 1877, nearly two hundred years after Leeuwenhoek's death, that they were definitely shown to be the inciting agent of the disease by a chemist, Louis Pasteur. On this apparently simple discovery were laid the foundations of aseptic surgery, the science of bacteriology and the hygiene of infectious disease.

The elaborate studies of a hundred years on the nature of pulmonary tuberculosis were at once rendered fruitful to mankind by a classic memoir by Robert Koch on the discovery of the inciting organism, the *Bacillus tuberculosis*. The practicing physician was immediately placed in a position to make an early diagnosis of the disease by the simple procedure of staining the organism, and as it is only the early cases which are susceptible of cure, the human race was permanently benefited by the results of a purely laboratory study.

In recent years it has become more and more evident that all groups of workers in medicine, though apparently laboring with sharply contrasted aims and methods, have a common goal in view, and that each can be of great assistance to the other.

The pathologist in his investigations of the alterations found in the tissues of the body after death, however aptly such study may have been compared by Oliver Wendell Holmes to the examination of the fireworks on the morning after the fourth of July, may still afford wise counsel to the practitioner in revealing hidden changes or unexpected disease not evident to the eye or ear of the most experienced clinician. The knowledge of an expert pathologist is also of great practical value to the surgeon, for by the examination of portions of tumors removed before or during an operation, the nature and extension of the growth may be made evident in a manner impossible to the unaided senses. The application of this knowledge is a portion of the field now included under the title of clinical pathology, for the pathologist of the new century is looking forward more and more beyond the mere morphological examination of organs and tumors, as he realizes that the time has come when secrets may be wrested from cells by more delicate means than have heretofore been employed. New worlds have been revealed in the last ten years which lead us to believe that we are on the threshold of discoveries that may lead far into our understanding of the activities which go on inside of each cellular microcosm. The pathologist borrows ions from the physicist and either incites or checks the growth of cells at will. He purloins the terminology and theories of the organic chemist and on them builds a far reaching hypothesis which has inspired the investigation of immunity for a decade. Even the sacred field of zoology has been invaded, though not without protests from the defenders of the citadel, and the protozoa, which have hitherto amused the amateur microscopist as they swarmed about in hay infusion or pond water, have come to the fore as the inciting agents in a few diseases, and are under grave suspicion of complicity in others. Laboratories have been built and consecrated to the study of tumors from mice and rats in the hope that a clue may be found to the inciting factors and to means of cure of the tumors of man. The experimental pathologist

has not hesitated to confer upon those previously neglected cousins of the human race, the apes, the doubtful honor of demonstrating the true nature of a disease whose history is coupled with the depths of human degradation. The same animals may yet be made to furnish curative sera for many diseases as yet beyond the powers of medical skill. Such broader outlooks and problems are gradually leaving mere morphological and chemical diagnosis to a group of clinical pathologists more directly interested in the immediate practical application of what is already fairly well determined than in the study of questions for whose solution a century of labor may still be required.

In biological chemistry the remarkable discoveries that have been made in recent years, beginning perhaps with the synthetic formation by Wöhler, in 1828, of urea, a substance previously thought to be formed only as a result of vital action, have begun to cast some light upon the complex changes which take place in the tissues of the body. We have only to recall here the modifications undergone by the food in the process of digestion and assimilation, to realize how much has been accomplished. We now know some of the steps by which the useful portions of our diet are broken down by the ferments secreted in the cells of the intestinal tract; how complete is the accord between these ferments; how complex substances are reduced to simple, only to be again combined into bodies suitable for circulation in the blood in order that every cell may obtain its proper nourishment for recuperation, energy, and growth. The whole organism acts as an engine for the transformation of the available power stored up in the food in strict accordance with the laws of the conservation of energy. The useless residues as they pass from the body enable us to judge of the efficiency and order of the machine within.

As the normal phenomena of digestion and absorption in the body become clearer, we can apply the facts so obtained to the abnormal, and even the little that we now know concerning the nature of digestion and assimilation and those obscure anomalies of metabolism known as gout and diabetes, has helped the practitioner to a clearer understanding of the conditions underlying many clinical symptoms of these diseases and a better basis for com-

bating the progress of the maladies of which these symptoms are only the external evidences.

The specialist who devotes himself to the study and alleviation of the diseases of the digestive organs must base many of his diagnostic and therapeutic conclusions on the results of chemical analyses of portions of the secretions of that apparatus, which modern methods have taught him to secure from our mysterious interiors. The lack of wisdom in prescribing for indigestion a mixture of pepsin and hydrochloric acid, when almost all stomachs contain a sufficiency of both, is never so clearly brought out as after an analysis which reveals the truth. Yet how many simple souls have contributed relatively vast sums for such medicines, chiefly to the benefit of the apothecary and without advantage to themselves! The physician whose treatment of his cases is based upon symptoms only, ignoring or ignorant of the new lore, is apt to look with scorn upon the Christian Scientist as possessing neither an excess of Christianity nor a modicum of science; but it would be wholesome on occasion if he looked within himself and made an inventory of his own store of science, albeit of a slightly different sort.

The contributions of the bacteriologist to the art of medicine have possibly been of greater or at least more directly practical aid to the surgeon than to the practitioner of internal medicine, and yet leaving on one side such great bacterial discoveries of therapeutic value as the antitoxin for diphtheria and for tetanus, there is much important practical information to be obtained by a bacterial study of disease, even though a specific cure has not as yet, in many instances, been evolved from such study. We may mention here merely the diagnostic importance of blood cultures in typhoid and allied fevers, and in septic diseases, and the general use of the agglutination tests in typhoid and Malta fevers. The chief difficulty with bacteriologic diagnosis at present lies in the complicated and time-consuming technique which is necessary before an organism can be positively identified. This fact still stands in the way of a more general application of the knowledge that we now possess of the nature and distribution of bacteria and their relation to disease.

In recent times we have found that organisms not bacterial in their nature may attack both man and animals. Thus some of the yeasts may invade the body and set up serious, even fatal, inflammation, while parasites of a higher order play an important role in the induction of malaria, filariasis, sleeping sickness, relapsing fever and amœbic dysentery. Fortunately, most of these diseases, with the exception of malaria, are confined to somewhat limited areas and chiefly to tropical regions. Even if the parasite is not known a disease may be controlled if the mode of infection be known, the best instance of this being yellow fever, in which the mosquito has been shown to transfer the poison from person to person. Certain intestinal parasites are of great economic importance, one species incapacitating large numbers of persons, especially miners, tunnel workers, or people of a definite district, as for instance, the laboring class in Porto Rico, where a small worm, the *Uncinaria Americana*, causes a severe anæmia in a large percentage of the population.

Almost all of the conditions mentioned are diagnosed most certainly by the microscope, and the nature and life history of the parasite once determined, prophylactic measures which will stamp out the disease require only an intelligent application of simple principles of hygiene, and the money to make such principles efficient. There is no typhoid or dysentery where food and water are safeguarded; no malaria or yellow fever where persons are protected from mosquitos; no uncinariasis when people avoid contaminated soil and water. An efficient corps of sanitary engineers, if given executive power to enforce discipline and sufficient money to administer the hygienic measures needed, could, in the light of recent scientific discoveries, render the Isthmus of Panama as safe a place of residence as any city in this country.

In this short review those diseases chiefly have been mentioned in which laboratory methods of diagnosis are of paramount importance. There are, however, many diseases in which clinical observation is at present the chief reliance in diagnosis, and the laboratory of minor importance. Many of the chronic disorders of the body come under this heading, while in the acute eruptive diseases, also, our absolute lack of information as to the parasite which incites them precludes the use of the microscope or test-tube in their diag-

nosis. But even in the course of a case of scarlet fever, for instance, the practitioner is glad to be reassured by the laboratory that disease of the kidney is not present to add to his difficulties. In chronic Bright's disease our views concerning a suitable diet have been much modified in recent years as a result of laboratory studies by French and German clinicians.

This shifting of the stage of medical study from the wards to the laboratories has been in progress for many years, and the extent to which it may develop in the future is still a problem. The tendency at the moment in this country is toward a rapid expansion of the laboratory phase, while at the same time stress is laid on the practical side. Certain it is that at the present time the scientific aspect of medicine has usurped a large proportion of the interest of the teaching branch of the profession, and there must arise in the minds of many a physician of the generation now passing away, while listening to a modern discourse on medicine, the words of that famous quack in Molière's comedy, who when asked to explain why he said that the heart was on the right side of the body when it had always been thought to be on the left, replied: "Yes, it was thus in the old days, but we have changed all that and now practice medicine by a method which is quite new." Perhaps in no other art has so great a change taken place in half a century. Every layman now discourses familiarly on bacteria and the triumphs of operative surgery; the daily press gives vent to views, usually somewhat crude and discordant, on the subtle powers of radium and the Röntgen rays as applied to the cure of incurable disease; the young physician talks fluently of ions, toxins, opsonins; and a new and complicated vocabulary has sprung into current use. A change has truly come over the spirit of medicine.

It is not necessary to cite further examples of the benefits of the application of precise and logical methods to the investigation of disease. The result has been to create a great body of knowledge roughly grouped under the headings of bacteriology, pathology, and biological chemistry. Much of this knowledge is in obscure form and without any immediate practical value to the physician. How can such a vast field be rendered fruitful to the student and prac-

titioner? The question has been answered in a number of ways in different conditions and institutions.

In Germany the men from whom the great clinical teachers are drawn devote their formative years to the study of one or the other of these purely scientific aspects of medicine; they become expert biological chemists, pathologists, or bacteriologists, until their researches have prepared them to assume a teaching position in one of the many universities. It is not the man with a large private practice who is delegated to instruct the student body in the science of medicine; but usually a clinical assistant who has shown himself to be a laboratory worker of great ability, who is asked to transfer his interests and his erudition to the bedside. In this way one trained in the general methods of the laboratory is brought face to face with the necessity of solving concrete and practical problems. Such a man is equipped to instruct and investigate in both the laboratory and clinical phases of the subject in which he is interested, and he or his assistants give regular courses in clinical pathology, thus linking it most closely with clinical medicine. He spends his life between the wards and the laboratory, and private practice is often looked upon as a thing to be avoided. The application of this principle results in the greatest efficiency as regards the advance of the science of medicine, but there are certain disadvantages, which are most obvious perhaps to the hospital patient, who is too often made to appear rather in the light of a problem for study than as a human being in need of human aid.

In this country, we have approached the problem from another point of view, owing largely to the somewhat different social and economic conditions, which exert a strong influence on the medical body. Those physicians whose mental qualifications have fitted them for a scientific career have usually remained as teachers and research workers. There has been, with but few exceptions, no tendency to make the pathologist or bacteriologist either a clinical teacher or a hospital attending physician. The incumbent of the chair of medicine has usually been chosen from the ranks of those eminent in the practice of medicine, who have devoted their earlier years almost entirely to bedside study. This, in favorable instances, is no slight advantage from the practical side to the patient in the

hospital and to the medical student, for each enjoys the ripe experience of the master in the art of healing. Few such clinical teachers, however, can devote their entire time to the hospital wards, and fewer still are able or care to carry on laboratory research. The need has, therefore, been felt in this country for an intermediate type of teacher through whom the student can receive instruction in the laboratory phases of clinical medicine, or from another point of view, in the practical phases of laboratory knowledge.

The solution of the difficulty was begun in the College of Physicians and Surgeons in 1896. In that year it was decided to begin instruction in what has since become known as clinical pathology. Because of the close alliance of the subject with pathology and bacteriology, and also for convenience of administration, the work was undertaken by members of the teaching force of the department of pathology. Ten years later it was felt that the natural growth of the subject and its increasing importance in diagnosis warranted a further expansion of the opportunities for undergraduate instruction. Accordingly a department of clinical pathology was organized, and this action on the part of the medical faculty and the trustees of Columbia University has given rise to a number of inquiries concerning the reasons for such action and the nature and scope of the new department so formed. In other words, what is clinical pathology? What does the subject include; in what manner is it related to the other branches of medicine, either theoretical or practical; and, finally, what is the line of its development for the future?

Clinical pathology may be regarded as including for the purpose of teaching and research, those simpler phases of pathology, bacteriology, and biological chemistry, which may be applied practically in the diagnosis, prognosis, and treatment of disease. The subject thus allies itself on one hand with the theoretical and on the other with the practical—with the laboratories and with the hospital wards; and this combination forms, so to speak, a clearing house for the interchange of ideas between the research worker and the practicing physician. The former has no time nor opportunity to deal extensively with the art of medicine as applied to persons suffering from disease, while the latter is busy with diagnosis and treatment,

and but too rarely has opportunity or leisure to do actual research, or even to become acquainted by reading with the details of more or less complex laboratory studies.

If we turn now to a more detailed consideration of the present conditions of teaching clinical pathology we find a great variation in the methods employed. In some of the medical schools the subject is included in the course in medicine and is often taught in an imperfect and haphazard way. In the Johns Hopkins medical school, where the conditions are ideal, the clinical laboratory is in the hospital, and has been conducted for years with the closest relationship to the bedside teaching. This is due largely to the appreciation of the importance of the subject by Professor William Osler, whose previous training in pathology had been very extensive. In the University of Pennsylvania the close affiliation of the medical school with the hospital and the existence of the Ayer clinical laboratory have permitted the proper development of laboratory teaching. In the Harvard medical school a teaching corps for instruction in clinical pathology is now being organized under the direction of the professor of medicine, so that the future policy and direction of growth in this school are still somewhat indefinite.

In the College of Physicians and Surgeons the courses were begun on a basis essentially different from that of other schools, the work being, as previously stated, a part of the instruction given by the department of pathology until the separate department of clinical pathology was organized.

A proper system for undergraduate and postgraduate instruction should include (a) a systematic laboratory course in the elements of clinical pathology, in which the student can learn the routine of the simpler methods; (b) a practical course in which the student can study types of disease and apply to their diagnosis the methods previously learned in (a), and such a course should be given in conjunction with clinical teaching; (c) an advanced course in a hospital where patients can be observed for considerable periods and studied from every point of view. With the facilities afforded by the hospital laboratory the more elaborate methods of analysis can be taught and the practical value of the tests brought out; cases of acute disease can be observed under conditions which are im-

possible with an ambulant clinical material; the results of medication or diet can be watched to the best advantage because the administration of food and drugs can be perfectly controlled and the excretions of the body collected as they can not be from out-door patients. In such a hospital laboratory advanced students or physicians desiring postgraduate instruction can be assigned problems suitable to their abilities and, if competent, can carry on special researches, which may be of value not only to the laboratory aspect of the question, but to the clinician. Such men can very well be chosen from those who have had special chemical, pharmacological, or bacteriological training, or what would be still more satisfactory, are still working in the departments mentioned. They could thus obtain material under the best possible conditions for the prosecution of problems set by the heads of such departments. Such a coordination of effort and sharing of material would be a great advantage to all concerned and one which does not exist at present to a satisfactory degree.

The function of such a department of clinical pathology should be fourfold: (1) To give undergraduate and graduate instruction. (2) To examine and make suitable reports on specimens from the medical or surgical clinics or from practicing physicians. (3) To investigate the numerous laboratory tests which are constantly being published as of diagnostic value, and which often prove to be quite unreliable. The collation and verification of such tests would be of great value to the practitioner, who is often misled by methods which are imperfect, and who should have some means of ascertaining the procedures which he can properly employ in his own work. The premature publication of methods without sufficient verification is also a fruitful cause of confusion and is only a part of the pseudo-productivity in so-called research which has, during the last few years, become noticeable in all branches of science, but especially in medicine. Many of the larger and more ambitious monographs often contain suggestions which, if adapted and simplified, might lead to interesting diagnostic and therapeutic facts. (4) To carry on researches in certain phases of the borderland group of subjects which the department is designed to cover.

Such a program requires for its full development a number of conditions. The department should have a central laboratory in the medical school where routine examinations can be made and specimens can be classified and stored for reference or for use in teaching. Such a laboratory need not be of large size and its equipment would be moderate in cost. A beginning has already been made at the College of Physicians and Surgeons through the generosity of an anonymous donor. An excellent classroom for the systematic course exists, which was amply equipped when teaching was first begun in clinical pathology. During the summer of 1906 a small laboratory was added to the Vanderbilt Clinic for the practical course and has proven admirably adapted for the purpose for which it was intended; that is, the instruction of small groups of students in the application of the knowledge obtained during the previous year.

The opportunity for the proper development of a hospital research laboratory under suitable conditions has not yet presented itself. A good deal of material for teaching purposes in the elementary course has been obtained from several of the larger hospitals of the city. A number of them have developed laboratory facilities for clinical pathological work; but the importance of the separation of the control of the clinical and pathological work of the hospital wards does not as yet seem to be sufficiently realized. It now seems strange to us that, as was once the custom, the clinical staff of a hospital should have made all post-mortem examinations, and that a pathologist should not have been employed. In the future it will probably appear equally strange that the clinical staff should concern themselves with the chemical and microscopical examination of the blood, sputum, urine, etc., of the patients under their care, and not delegate the supervision of such work to those who make a specialty of the subject.

It is evident that with the growth of this new phase of science the relation of the pathologist to the patients in the wards of the hospital has undergone a fundamental change. The laboratory staff must join with the clinician in the study of the patients in order to give to the latter the full benefit of our medical knowledge. This means that in the future a more complete cooperation and coordina-

tion in the work of both departments than has heretofore existed must be developed. If this condition can not be met in a thoroughly efficient manner by the method here outlined, it will be necessary in order to obtain the best results in teaching and research, to return to the German system, and give to those who teach clinical pathology a ward service in the hospitals, so that they can obtain patients for the demonstration and study of laboratory methods.

FRANCIS CARTER WOOD

MEDICAL EDUCATION IN NEW YORK

THAT New York City is at present the most advantageous place in which to pursue the study of medicine in the United States needs no argument, but in order that the various opportunities afforded here for this purpose may be clearly understood, it seems wise to present in this article a short summary of these advantages.

There are two classes of students who come to the city for medical study; first, the undergraduate student, who wishes to acquire the necessary knowledge to obtain his degree; secondly, the practitioner, who, having acquired a certain confidence in some lines, appreciates his deficiencies in others and desires to supplement his practical experience by special studies. For both of these classes of students New York offers exceptional advantages.

(1) *The Undergraduate Course of Study*

Progress in the development of medical education has been just as steady and rapid during the past three decades as progress in the science of medicine. The methods which made Paris, Vienna and Berlin centers of attraction for every physician twenty years ago have now been fully adopted and developed in this country; and there is at the present time no necessity for the student to go abroad for his medical education.

Medical study divides itself naturally into two categories: laboratory work and its practical application.

Laboratory work in a well equipped institution with ample facilities for instruction in chemistry and physics, botany and comparative zoology, anatomy and physiology, bacteriology and pathology,

is of the first importance. These are the fundamental underlying sciences with which every student of medicine must be familiar before he can attempt to enter upon those more practical branches which lead directly to the treatment of disease. In the city of New York there are well equipped laboratories either in or associated with all of the medical colleges for the pursuit of these theoretical branches. At the College of Physicians and Surgeons more than three fourths of the floor space in the building is taken up by large, well equipped, well lighted laboratories, in which every student has ample desk space, and where work in most of the above subjects is carried on. In chemistry, physics and botany, laboratory courses of the most elaborate and complete kind are offered by the other schools of Columbia University. At the American Museum of Natural History an enormous material is at the disposal of the student for work in comparative zoology and in comparative anatomy, both of which studies, to be in any sense adequate, require museum work. At the Cornell University Medical College, and at the University and Bellevue Hospital Medical College laboratories of the fundamental sciences are also open to the student. The necessary material for work in these laboratories is only to be obtained in a large city, and there is therefore in all of them an ample supply of material which cannot be obtained in a small place or in a suburban town.

While anatomical dissection is a part of this laboratory work, it no longer holds the chief place, as it formerly did. The investigations along the lines of physiological chemistry, and more particularly in bacteriology, have opened up new fields for the medical student. The study of the causes of disease, especially the study of microorganisms, their natural growth, the environment favorable or hostile to them, their effects upon the human body, its efforts to combat them in the modifications of the blood, the development of serums which contain the antidote to these germs, the use of these serums as a means of relief when infection occurs, all these are subjects dealt with in the laboratory and are of most vital interest. For such studies lead up to preventive methods in medicine; they bear directly on the problems of modern sanitation, of the power to foresee and to avoid infection, and of the protection

of the public from that vast array of diseases to which all are liable if not duly on their guard. Just as the discovery of vaccination by Jenner has banished from the world the great scourge of small-pox which for centuries devastated Europe by periodical epidemics; just as the discovery of the use of the antitoxin of diphtheria by Behring has reduced the mortality of that disease from 40 per cent. to 15 per cent., or even lower when patients are treated early; just as the discovery that many hitherto uniformly fatal diseases, like ulcerative endocarditis, may be cured by antitoxin prepared from the blood of the patient himself; so there are probably a majority of the diseases to which the public is liable for which preventive measures are soon to be found. The researches along these lines are of far-reaching importance and can only be conducted in well equipped laboratories under the direction of special investigators.

The study of the blood under the microscope offers another illustration of the importance of clinical laboratory work. The elimination of malarial fevers, of yellow fever, and of similar endemic diseases due to the invasion of the blood by protozoa conveyed by insects has been the practical outcome of such investigations, and it is not unlikely that we may be rid of typhoid fever in time, when the theory of its transmission by flies is appreciated. In every laboratory in the world there are today investigations in progress on tuberculosis and on cancer which will undoubtedly lead in a few years to the discovery either of methods of their prevention or of means for their cure. It is thus evident that the importance of laboratory work in medicine can hardly be exaggerated, and that the first requisite of medical education is access to fully equipped laboratories.

The practical side of medical education—the study of sick people, the detection of their ailments, the comparison of one set of ailments with another, the attempt to distinguish between closely allied groups of diseases—is being pursued at present in accordance with foreign methods, very largely at the bedside. The theoretical knowledge of medicine as gained by lectures or by the study of text-books must be constantly supplemented by the practical application of these principles in the study of patients. Little by little

the didactic system of teaching is being relegated to the background; as is well demonstrated in the latest curriculum adopted by the College of Physicians and Surgeons, where the student of the fourth year is required to attend at the College building only on one day in the week, the other five days being spent entirely in dispensaries and hospitals.

This method of practical instruction at the bedside can only be carried out in a city where hospital facilities are extensive. There is no city in the country in which there are so many well organized public and private hospitals as in New York. Bellevue Hospital, the City Hospital, Ward's Island Hospitals and Alms-houses offer an unlimited supply of patients suffering from every conceivable form of disease, and are open to the students. The attending physician in these hospitals, whose duty it is to visit the wards every day, takes about with him a group of students, eight or ten in number, and these students by continuous daily service in the wards are enabled to watch the progress of disease from its beginning to its end at the bedside. Diseases are classified into surgical and medical, and these in turn into smaller groups, as diseases of the heart and lungs, diseases of the stomach and abdomen, general diseases, infectious diseases, etc., and each class of case can be followed from its inception to its termination in the different departments of these hospitals. All sorts of surgical affections, injuries of every variety, tumors of different characters and the many forms of surgical disease which are met with, can not only be studied in the hospital, but treatment by operation can be watched in the surgical amphitheaters. And thus in the course of the third and fourth years of study a practical application can be made by the student of those theoretical doctrines which he has acquired, partly by his laboratory work and partly by his reading.

But not only are the public hospitals open to the student. Many of the larger private hospitals are equally at his disposal, namely, the Presbyterian Hospital, Roosevelt Hospital, St. Luke's Hospital, the New York Hospital, the Hospital for Ruptured and Crippled, St. Mary's Free Hospital for Children, the General Memorial, the Babies' Hospital, the Foundling Hospital, St. Vincent's Hospital, St. Francis' Hospital, the Lincoln Hospital, and many others too

numerous to name. There are seventy-four hospitals in New York, and thirty in Brooklyn, each with its medical and surgical divisions, many of them with between two hundred and three hundred beds, and these offer an enormous clinical material to the student.

And this is not all. Only a small proportion of individuals who are sick are sufficiently ill to be confined to bed in a hospital. Poor patients able to be up and about are treated in public dispensaries, and of these New York possesses fifty-three and Brooklyn sixteen. At the Vanderbilt Clinic, which is attached to the College of Physicians and Surgeons, no less than forty-five thousand patients are treated annually and the number attending at the dispensaries of the Cornell Medical College and the University and Bellevue Hospital Medical College is almost equally large. In addition to these college dispensaries there are out-door dispensaries at the various hospitals already mentioned, besides a large number of dispensaries not attached to any hospital, the Demilt, the Northeastern, the Northwestern, the New York Dispensary, the Essex Dispensary, and many others, where thousands of patients are treated annually, and all of these are open to the use of the medical student.

The material available at these dispensaries is utilized by the professors in the medical schools for teaching. Clinics are held, that is, an oral explanation of the disease as it appears in the individual patient, is given to the students. In dispensaries as in hospitals diseases are carefully classified, each department of the dispensary bearing the name of the specialty with which it deals, and thus the most minute special instruction can be obtained by the student in every department of medicine in his dispensary work. It is known generally that at the dispensary a poor patient can have a free consultation with the best specialists in the city, who are willing to give such consultations in order to show students rare and interesting cases. As a result, all the unusual types of disease are to be seen in dispensaries, and at such a clinic as the Vanderbilt, which is attended by the professors in each department of the medical school, there is exhibited a most extraordinary number of peculiar and rare diseases.

There are many departments of medicine in which the student

must acquire manual dexterity in the handling of instruments in order to make proper examinations. Thus the use of mirrors in looking at the eye and ear and throat; the use of all kinds of surgical instruments, the technique of dressing and bandaging wounds, and all the nice adjustment which apparatus demands, have to be acquired by practice. This can be taught only by practice upon patients, and the dispensary offers the material. In a small town, or even in a small city, the number of patients available is not sufficient for proper instruction, and hence it is only in a large place like New York that proper facilities can be found. There is no reason why in this city the medical student should not obtain as good an education as can be had anywhere in the world.

As a supplement to the education obtained in the medical schools, a large number of the students on graduation enter the hospitals of the city as resident physicians or internes. Every year there are about one hundred and fifty vacancies on the staffs of the various hospitals in New York and its vicinity; the term of service in each hospital being one and a half years. During this term of service the interne has the direct charge of the patients under the direction of the attending physicians, who visit the hospital daily and supervise the diagnosis and treatment of medical cases and perform the necessary surgical operations. A training of this kind in a hospital affords a practical experience in both medicine and surgery which is invaluable to the student, and hence the majority of graduates compete for these positions. The competition is by examination, and the best candidates receive the appointments in all the various hospitals. This hospital service has come to be regarded as an essential in the process of medical education and practically corresponds to the fifth year of medical study which is insisted upon abroad.

Facilities for the acquirement of knowledge and skill in obstetrics are offered in New York as in no other city. At the College of Physicians and Surgeons the Sloane Maternity Hospital is open to the students of the College in their fourth year, each student being required to reside for two weeks continuously in the hospital. As the number of confinements every year exceeds fifteen hundred, and as the majority of these cases are brought to the

hospital because of difficult complications, the student has an opportunity to see every form of labor. At the New York Lying-in Hospital facilities are offered for special students, who are admitted in groups of four or six. In these hospitals a few of the students obtain positions as internes after their graduation. A maternity service is also maintained both at Bellevue and at the City Hospital.

(2) *Postgraduate Medical Work*

The growing demand for postgraduate medical work has led to the establishment in New York of two institutions especially adapted for such instruction, namely, the New York Polyclinic and the New York Postgraduate School.

In these institutions short courses of instruction are given in a large number of different departments, each course involving work for one or two hours daily and lasting about six weeks. In this way a physician from out-of-town can obtain in a comparatively short time the advantages of the special instruction which he desires. He can also do a certain amount of laboratory work, and if he is prepared to spend three or four months in the laboratory and is found capable of doing advanced work, the laboratories of the regular medical colleges are open to him. He also has the privilege of attending the open clinics in any of the many hospitals of the city, of witnessing different kinds of surgical operations, and of acquiring technical knowledge of the various specialties. All the advantages that have been mentioned in connection with the regular medical education are at his disposal, and in some of the schools special facilities are offered, though his demands are somewhat different from those of the regular undergraduate. More than one thousand medical men come to New York annually for special studies and the courses open to them in the various departments afford them every facility for supplementing their imperfect knowledge along special lines.

The Academy of Medicine, at Seventeen West Forty-third Street, where medical societies meet frequently, possesses the finest medical library in America. All new books are to be found there, and all the American and foreign medical journals are on file in the reading room. The library is open to all, and is the center of

literary work for physicians, affording opportunity for research in every line. It contains over eighty thousand volumes and one hundred and sixty current medical periodicals.

M. ALLEN STARR

THE PROGRESS OF THE ANTI-TUBERCULOSIS MOVEMENT IN NEW YORK

THE crusade against consumption has become a world-wide movement. Slowly and steadily it has won its way, until it is no longer eyed askance as a visionary dream of the enthusiast, but has become one of the usual and it may be even one of the expected institutions of every civilized community. This is a simple fact of history; but for its achievement there has been involved such a vast change in beliefs and policies, affecting so many social as well as scientific problems, that a sketch of its progress amid the cosmopolitan and material environments of New York may be of some interest.

It has come about because we have learned the cause of the dread thing we call consumption, and all of this very modern movement dates from the discovery of the bacillus or germ of tuberculosis by Robert Koch in 1882. Glimpses of truth had appeared before that time, as is evidenced by the fairly general suspicion of the communicability of the disease and the clinical experience of a certain amount of benefit derived from change of climate, sea-voyages, open-air exercise and various forms of so-called cures based on diet. But there was no accurate or firm foundation of scientific fact, until Koch's brilliant discovery paved the way for future progress.

Only twenty-five years ago, then, tuberculosis was a scourge of fearful prevalence, mysterious causation and almost invariably fatal outcome; combating it was the infrequent and desultory use of ocean-voyages, mountain-climbing, horse-back riding, and the feeding of grape-juice or goat-milk. The value of an open-air life was barely appreciated, and when at that time, Dr. Trudeau resolved to spend a winter in the Adirondacks in search of health, he was

thought to take his very life in his hands with reckless foolhardiness.

But even after the increasing knowledge of the tubercle bacillus brought with it explanation of the causation, transmission and progression of the disease, we were slow to grasp and utilize the full meaning of the advance, and it was not until 1894 that the department of health of the City of New York first took official cognizance of tuberculosis by requesting physicians to report cases of the malady. In 1897 it was declared by the department to be an "infectious and communicable disease dangerous to public health," and a compulsory report of all cases was required.

Since that time, however, New York has led the world in its sanitary control of tuberculosis through the health department, and at the present time its system is a model of efficiency. By registration all cases are recorded by card-indexes according to the name and address of the patient. Inspection in the homes of all such cases not under the care of a private physician is made regularly by the officials of the department, and supervision is farther carried out by more frequent visits by the department's nurses. By these means and also by the distribution of thousands of circulars, pamphlets of instruction, etc., a campaign of general education is maintained. Disinfection is regularly practiced after every death and after every change of residence. By means of the sanitary code spitting is prohibited in public places and offenders are arrested, physicians neglecting to report cases are reprimanded and liable to arrest, and any case that is found to be a menace to his associates because of disregard of proper precautions may be forcibly removed and detained in a hospital.

Another potent factor in education and prevention has been the work of the committee on the prevention of tuberculosis of the Charity Organization Society. Composed of representative men and women of the community, both physicians and laymen, it has been a guiding influence in this whole movement. For purposes of education the committee has arranged lectures and stereopticon exhibits both in halls and in public parks, has distributed thousands of cards and circulars of information, and has furnished numerous newspaper and magazine articles. A traveling exhibit showing graphically, by means of photographs, models, charts, etc., the

different aspects of the tuberculosis problem, not only in New York, but in other parts of the country, has been maintained in conjunction with the department of health in different parts of the city, and has attracted thousands of the tenement population. The committee has also investigated the sanitary conditions existing in tenement houses, factories, sweat-shops, and other public places, and has instituted many valuable reforms.

Even before the department of health began its active campaign and continuing along with it, the need of hospitals for the care and segregation of advanced consumptives was recognized, and several such institutions were established, both municipal and private, the latter largely through Catholic Orders. At the present time there are two thousand five hundred beds for such cases in the hospitals of the city. Accompanying this movement was the general rule which excluded tuberculosis patients from the wards of general hospitals and thus protected thousands who were formerly exposed and often infected.

It was the sanatorium idea, however, that first brought a ray of hope out of the dark despair of any cure for tuberculosis. From this plan of an outdoor life with rest and plenty of good food, in the clean, pure air of a favorable climate, has developed the possibility of building up the body to resist and throw off the disease, until now in early cases a majority variously estimated at from fifty per cent. to eighty-five per cent. can be cured, and very many more can be restored to a state of comparative health and usefulness. Thirty years ago the first sanatorium of this kind in the United States was founded at Saranac Lake, N. Y., and since that time many others, both public and private, have been instituted. Quite recently in the State of New York we have established a state and a municipal sanatorium for incipient tuberculosis, the former being situated at Ray Brook in the Adirondacks, and the latter at Otisville, in Orange County. The tremendous influence of these institutions, bringing health and sanitary education to many and hope to all who suffer from this disease, cannot be estimated.

It is in the homes of the poor, however, that tuberculosis finds conditions most favorable for its development, and here too the vast majority of patients must stay, be it to live or die. Institutions

have their valuable functions, but the home is after all the battleground upon which the fight against this disease must usually take place. It is only for about five years that this fight has been considered worth the making in New York, or in any other city of this country. Nothing beyond the general inspection and occasional disinfection by the health department was attempted in this direction until the establishment of special clinics for tuberculosis. It will be of interest to Columbia men to know that one of the first of these was established at the Vanderbilt Clinic in 1903. At the present time seven of these special clinics exist under the auspices of the department of health, the Vanderbilt Clinic, Bellevue, Gouverneur, Harlem, and Presbyterian Hospitals, and the New York Dispensary, respectively. Of these three have been organized and are now conducted by graduates of the College of Physicians and Surgeons, who have always been most interested and active in the work. When it is realized that there are approximately twenty-five thousand cases of tuberculosis in the borough of Manhattan alone, and that a large proportion of these are among the poor, the need for these and additional special clinics is apparent.

The most important feature of these special clinics is the devotion of a large amount of time and attention to the details of the management of each case. These details are very numerous and often apparently trivial and uninteresting, and consequently in the rush of a general clinic they are usually disregarded. The summation of them all, however, makes up the patient's daily life, and it is upon the character of this life that all chances for improvement depend. The sanatorium has shown the way, and the special clinic tries to apply the same principles to the unpromising conditions in the tenement homes. The physicians teach each patient carefully the doctrines of open-air life, rest and good food, varying the application of these principles to the needs and condition of each individual. The visiting nurse then carries these instructions to the home and brings back to the physician her report and suggestions. Here is the vital principle of this work: constant supervision and advice in the homes, making possible an intelligent plan of life for each patient and insuring the proper execution of the instructions given at the clinic. The results obtained by the nurses in the

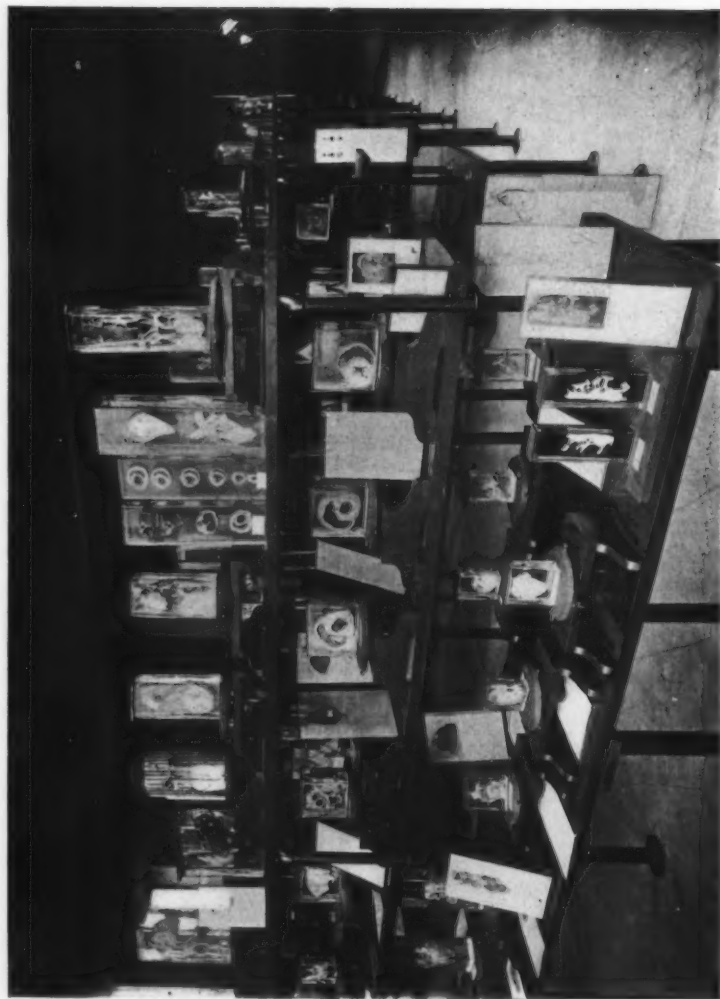
betterment of the living conditions and personal hygiene of the ignorant patients and their families, are remarkable. These women are preaching the gospel of fresh air and clean living, and the poor and uneducated population are rapidly learning its blessings and are demanding their right to its privileges, even in crowded, dirty New York.

But these privileges are expensive in New York, and our patients are poor; therefore we go still further in our efforts to help them, by seeking assistance from the different charitable societies. In this way the needs of each case are carefully studied and usually adequately, often generously supplied. The help given may take the form of food, clothing, rent for sunny or less crowded rooms, supplying wage loss in order that the sick bread-winner may have necessary rest, or, it may be, board in the country for children who have been exposed to the infection. The Charity Organization Society, the Association for Improving the Condition of the Poor, the United Hebrew Charities and other charitable organizations, are devoting a large amount of money and study to these social problems in tuberculosis and, by cooperation with the physicians and nurses, are making possible a large part of the work of the tuberculosis clinics. Each clinic cares for its own district of the city, giving milk and eggs instead of medicines, and tangible assistance in the place of empty advice, and while thus working for the good of its own patients it at the same time joins hands with the other clinics in a concerted effort to treat this great problem as a whole, by cordial cooperation in the ways and means to stamp out the disease.

Contrast this policy of careful study and intelligent help with the desultory advice formerly given to eat heartily when there was no food, to rest when children's lives depended upon work, or to go to the country when even car-fare was a luxury, and one can appreciate that we are passing from the era of irresponsibility and hopelessness, into the dawn of hope, common sense and humanity in the management of tuberculosis.

JAMES ALEXANDER MILLER





SECTION OF TEACHING MUSEUM, SCHOOL OF MEDICINE

TEACHING MUSEUM FOR UNDERGRADUATES IN MEDICINE

THE second floor of the anatomical building has been devoted to the purposes of the new teaching museum for undergraduates in medicine, and the equipment, provided toward the close of the last session through the generous gift of Mr. E. S. Harkness, has recently been completed and put in place. The installation of the teaching collection is now proceeding steadily. The accompanying view, showing part of the exhibit dealing with the structure of the heart, illustrates the general arrangement of the exhibition, the new stands, rotating tables, method of descriptive labeling, etc.¹ The principles which have governed the arrangement of the material have evolved through the practical experience of the difficulties met both by student and instructor in the demonstration of complex natural objects. The brief exhibition of these objects of study during the progress of a demonstration, while essential to the spirit of modern science-teaching, does not afford to the undergraduate the necessary opportunity for careful personal study and close observation. The material therefor, which forms the basis for morphological instruction in the medical course, has been carefully selected and assembled as a students' teaching collection. The individual preparations are arranged in natural serial order, with cross-references, safe-guarded so far as possible against accidental injury during examination, but placed so that they can be studied in detail. Each preparation is accompanied by a descriptive tablet, giving its purpose and the meaning of its presence in the series. The special features which it is designed to teach, are accentuated by photographs or drawings included in the text of the tablet and carefully labeled, and the relation of each object to the other members of the series is clearly stated. The ultimate design of this museum is therefore to create the opportunity of using the natural objects to definitely fix the impressions which, during the progress of the students' work, have been given in lectures, demonstrations and other didactic or semi-didactic exercises, or in recitations and col-

¹ Twenty-one such individual stands and one large central stand have been placed.

lateral reading. The collection forms, so to speak, a reference-library in the highest sense, and is capable, if properly used and maintained, of rounding out the undergraduate course to a degree which no other method affords. The plan of the museum is in no sense confined to the department of anatomy. Several of the practical clinical branches have already begun the installation of their teaching equipment on the lines indicated and in connection with the corresponding portions of the anatomical collection.

GEORGE S. HUNTINGTON

ST PAUL'S CHAPEL

AN interesting critique by Mr. William H. Goodyear, written from the point of view of the technical expert, is published in *The Brickbuilder* for December, 1906, and from it the following paragraphs are quoted:

This chapel would appear to be one of the very earliest completed churches in the United States (if not the first) which is vaulted throughout the entire construction and in which a truly constructive central dome and its supporting arches are designed to be, and actually are, self-sustaining.

From another but closely related point of view, this same chapel marks a departure in church architecture in America, in the sense that the entire interior color scheme and decorative treatment are obtained solely and wholly in the constructive materials. Here again a note has been struck which will meet the sympathetic approval of every true artist in the United States.

The architects have relied for the color effect of their walls on the over-burned brick of their actual construction. To the masons themselves was left the task of obtaining the broken effect in color which is always superior to a uniform shade. They were encouraged to select in a partly haphazard and partly calculated method such a variety of natural tones of the brick as would obtain the desirable broken color. In the rose-colored tiles of the dome and of the pendentives and vaultings the color effects obtained by the predetermined irregular association of the lighter and darker tints of rose are beautiful. The effect must be seen to be appreciated.

Terra cotta relief ornament has been used in the interior for the framing of the main door, for the base molding, and in very rich and beautiful detail, which is reminiscent of the Della Robbia designs, for the archivolts of the great arches supporting the dome.





ST. PAUL'S CHAPEL
FRONT VIEW

The symbols of the four Evangelists in terra cotta are placed in powerful designs at the crowning of these four arches and unite them with the great ring of the dome.

Most of the ornament in the chapel, both inside and out, is symbolic, relating to scriptural subjects, as, for instance, the different designs of rosettes and other panels in the soffits of the great arches, where is found the use of the pilgrim's shell, the fig and its leaf, the vine, the poppy, the cross and the pax. The fruit and leaf work may be closely traced to models of Lucca della Robbia and Mino da Fiesole. The archaic vine motive forming the base mold of the interior was inspired by a piece of chased metal in the Spitzer collection.

In the furnishings and fittings of the chapel there has been much reserve. They are characterized by the sobriety and simplicity which have led the architects to emphasize the constructive materials and constructive forms of their building. On the other hand, no expense, and, what is better still, no conscientious effort, have been spared to obtain perfection of material and workmanship in these details. The carving and Tarsia work of the pulpit, reading-desk, choir-stalls and organ-cases are the work of Coppedè of Florence, one of the best known wood-carvers of Italy, as the result of a competition organized by the architects in Italy, in which the three leading wood-carvers of that country, respectively active in Siena, Rome and Florence, took part. The style of the detail in the choir stalls and pulpit has that combination of simplicity, vigor, richness and reserve which represents the best period of Italian wood-carving, about 1500. The motives in the wainscoting of the choir and in the choir stalls are inspired by the wood-work in the sacristy of Santa Croce in Florence. The design of the organ-cases deserves special praise on account of its structural fitness and because of the unusual purity of its composition.

The forms of the bronze chandeliers are carefully adapted to the modern requirements of electric lighting, while the bronze open-work rail of the galleries reveals the successful effort to preserve a general unobtrusiveness and lightness of effect in this otherwise generally disastrous feature of a modern church.

Even the lock and key of the main door are works of art, but here the antiquarian collector has taken the place of the designer. This particular tribute to old Italian work is graceful both in thought and in fact.

The pavement of the chapel again reveals the taste which does not forget details; for its large and simple patterns are defined by inlaid bands of mosaic, consisting of fragments of old porphyry and serpentine also brought from Italy.

The windows of the church include three in the apse, which are filled with stained glass by John La Farge. A single subject, St. Paul preaching at Athens, fills all three lights. Few modern stained glass windows can have found so beautiful a setting and contrast as these obtain from the brick walls around them. The sixteen windows in the upper part of the dome, by Maitland Armstrong, are memorials of distinguished alumni of the University, many of them of historic personages.

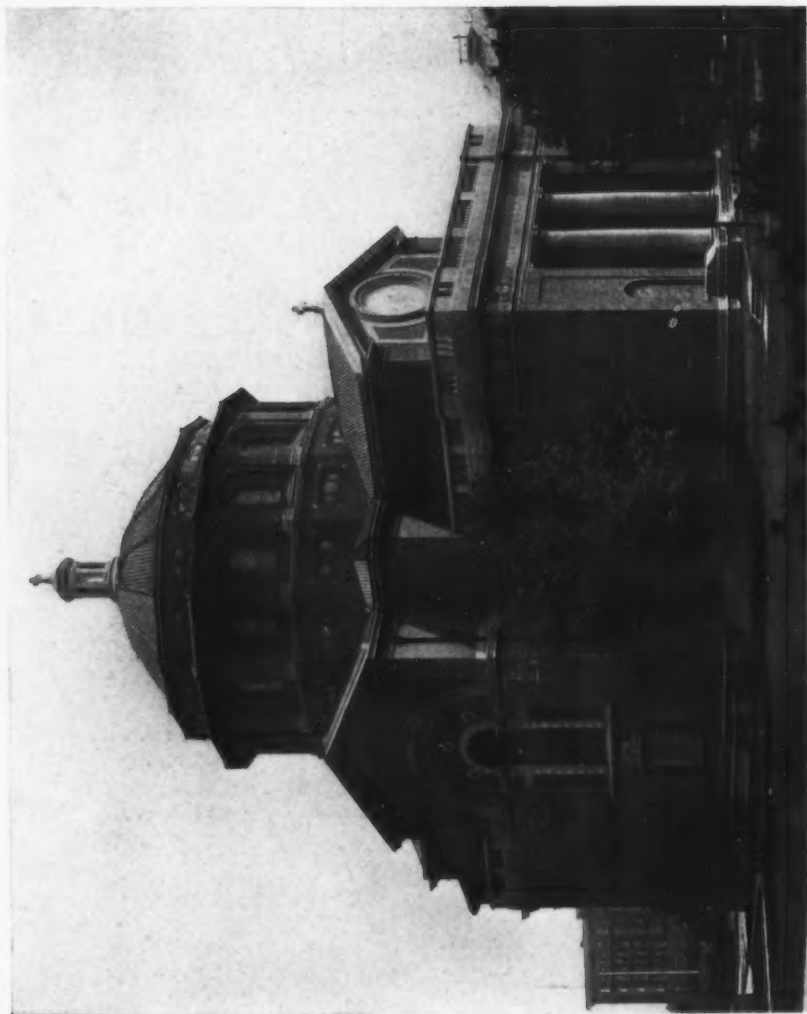
A seating capacity of one thousand was prescribed. The interior length is one hundred and twenty feet, the greatest width is seventy six feet. The interior diameter of the dome is forty-eight feet and its interior height is ninety-one feet.

DEDICATION OF THE CHAPEL

The Chapel was dedicated with a special service on the afternoon of Sunday, February third. The usual academic procession formed in the Library, moving thence to the Chapel and following the clergy and the choir up the main aisle.

In the chancel were the Right Rev. David H. Greer, the bishop-coadjutor of New York, and the Right Rev. William D. Walker, bishop of western New York; together with Dr. Edward B. Coe, a trustee and a representative of the Collegiate Reformed Church; Rev. Dr. Marvin R. Vincent, a trustee and representing the Presbyterian Church; Rev. W. T. Manning, assistant rector of Trinity Church; Rev. Dr. William M. Grosvenor, a trustee of Barnard College, and Rev. George A. Oldham, acting-chaplain to the University. In the choir-stalls were Rev. George R. Van De Water, Rev. George F. Clover, and Rev. Hugh McCulloh Birkhead; Rev. Dr. W. L. Robbins, dean of the General Theological Seminary, and Rev. George William Knox, acting president of Union Theological Seminary; Rev. Wallace MacMullen, representing the Methodist Church; Rev. J. B. Remensnyder, representing the Lutheran Church; President Butler, the trustees of the University, the University Council and other University officers. Illness prevented the attendance of Bishop Potter, Dr. Dix was also unable to be in his place, and it was impossible for Dr. Huntington to be present—three notable absences which caused very sincere regret on the part of all interested in the University.





ST. PAUL'S CHAPEL
VIEW FROM THE NORTHWEST

The limited seating capacity of the Chapel so restricted attendance as to make this absolutely an academic function. The floor was crowded with undergraduates, graduates, and officers of the University. The galleries were reserved for donors and their families, and the families of University officers. The total number present was about one thousand.

For the processional the twenty-third Psalm (twenty-fourth Psalm, authorized English version) was rendered in Latin.

As the last of the academic procession took their places, Mr. John B. Pine, clerk of the trustees, stepped to the chancel rail and handed the keys of the Chapel to Bishop Greer, who placed them on the altar.

The first hymn was "Come, Thou Almighty King." The opening sentences were read by the Bishop-Coadjutor. Dr. Vincent offered the opening prayers. The anthem was the "Venite," followed by a lesson read by Dr. Coe—very appropriately the selection was the story of Saint Paul on Mars Hill. The choir then rendered Naylor's anthem, "Lo, Thy Sons Come." President Butler read the following deed of gift:

KNOW ALL MEN BY THESE PRESENTS, That we, OLIVIA EGLESTON PHELPS STOKES and CAROLINE PHELPS STOKES, for the honor of God and in loving memory of our parents, JAMES STOKES and CAROLINE PHELPS, his wife, have given, granted and confirmed unto, and by these presents do give, grant and confirm unto THE TRUSTEES OF COLUMBIA COLLEGE IN THE CITY OF NEW YORK, their successors and assigns, the building heretofore erected by the said grantors upon the lands of the said grantees, situated at Morning-side Heights in the City of New York, and known and distinguished as St. Paul's Chapel of Columbia University, forever to be and remain a house set apart and dedicated to the service of Almighty God and of His Son Jesus Christ our Saviour.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this twenty-ninth day of September in the year of our Lord, one thousand nine hundred and six.

OLIVIA EGLESTON PHELPS STOKES
CAROLINE PHELPS STOKES

During the reading of the deed a memorial tablet erected by the donors was unveiled. The President also read the resolutions of

thanks to the donors of the Chapel and of the organ, and a letter of congratulation from the Archbishop of Canterbury. The Rev. Mr. Oldham offered prayers for the donors and for those in whose memory the Chapel is reared, which were followed by the hymn, "Stand, Columbia," sung by the choir and congregation. The dedicatory sermon was preached by Rev. Langdon Cheves Stewardson, LL.D., president of Hobart College—an earnest plea for intellectual and ecclesiastical freedom. Luther's hymn, *Ein feste Burg ist unser Gott*, was then sung in German. Bishop Greer delivered the final prayer and the benediction. The recessional hymn was, "O God, the Rock of Ages."

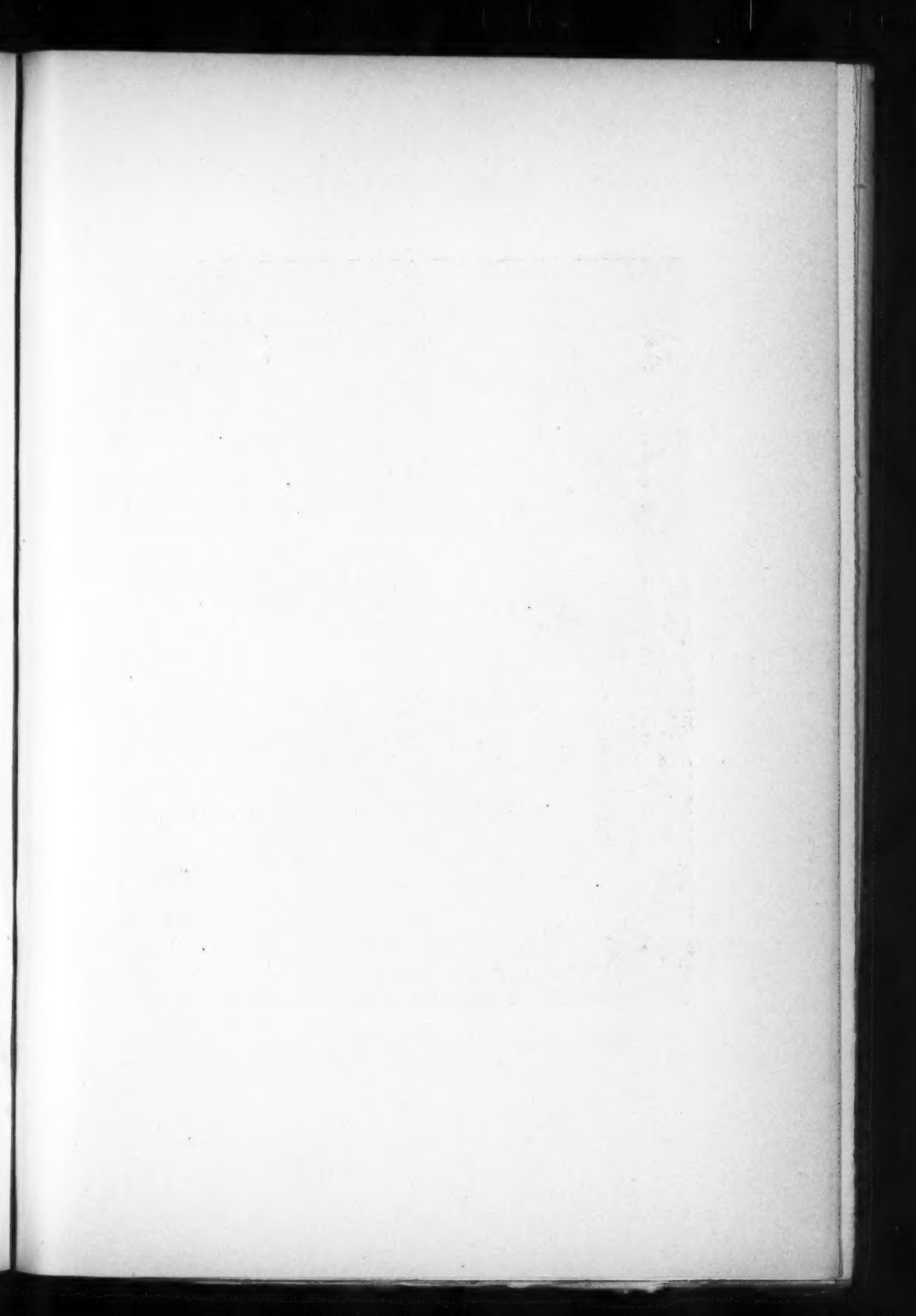
The service throughout was characterized by great dignity and was most impressive, showing the arduous and faithful effort and the remarkable good taste of Mr. Pine, under whose direction it had been arranged. The music was rendered by Samuel A. Baldwin, organist and choirmaster of Holy Trinity, Brooklyn, with thirty men selected from the choir of Holy Trinity and students of the University.

The following dedication hymn was written by Professor J. C. Egbert, '81:

Omnium Creator rerum!
Vita, Lumen, Veritas:
Admiramur et laudamus
Mundi Regem, Principem.
Alleluia! Alleluia!
Sempiterna in sæcula.

Iesu Christe, Auctor vitæ,
Tu Salvator omnium,
Nomen est Tuum exaltatum
Iure supra sidera.
Alleluia! Alleluia!
Sempiterna in sæcula.

Fulget a Te veri lumen,
Lumen et videbimus,
Inde vero vitæ nostræ
Effulgebunt splendide.
Alleluia! Alleluia!
Sempiterna in sæcula.





ST PAUL'S CHAPEL
VIEW OF CHANCEL AND CHOIR

Templum nostrum clarum, dictum
Sancti Pauli nomine,
Dedicamus et precamur
Ædes hæc sacrata sit.
Alleluia! Alleluia!
Sempiterna in sæcula.

THE ASSOCIATION OF AMERICAN UNIVERSITIES

THE eighth annual conference of the Association of American Universities, and one of the largest attended and most interesting in its history, was held on November 23 and 24, at Harvard University, the four sessions taking place in the large room of Phillips Brooks House. All of the fifteen members of the Association were represented by delegates, among whom were the presidents of the University of California (the president of the Association for the current year), Clark, Cornell, Harvard, Johns Hopkins, Leland Stanford, Wisconsin, and Yale. The president of the Carnegie Institution of Washington was also present under the permanent invitation extended at the Baltimore Conference, an invitation that was repeated this year for future meetings to the president of the Carnegie Foundation. Papers were presented on behalf of Clark University, the University of Wisconsin, Harvard, the University of Virginia, Leland Stanford and the University of Michigan.

At the first session papers were read by President Hall of Clark University and Professor G. C. Comstock of the University of Wisconsin on "The appointment and obligations of graduate fellows." President Hall's paper was largely statistical. Its aim was to show the nature and extent of such benefices in the different institutions, their manner of award, and the concurrent obligations which their holding entails. There was found to be no consensus of terminology, some institutions using fellowship where others use scholarship to apply to the same kind of benefice, no unanimity in the conditions of award, widely divergent stipends and still more widely divergent duties.

Professor Comstock's paper considered the varying obligations of the graduate fellow as they are construed by the different insti-

tutions and some evils that have grown up in the appointment of fellows under the present system. It is, perhaps, well, according to the writer, that there should exist fellowships both with and without service, but in the main the conception of training men for service rather than for personal culture is the worthier and the more consonant with educational ideals. The daily task if properly adjusted may be made a ballast, rather than a burden. It may be made to force upon the fellow new points of view and new relations to his subject matter. The collateral gain to the student is obviously dependent upon the character of the work assigned him. Routine work of a pedagogical character should usually fall so well within his competence as to impose no severe burden of preparation for its daily discharge. When the assigned research duties of the fellow are of such character as to demand and test his previously acquired professional and technical knowledge and skill, they may constitute the most valuable part of his training. The holder of a fellowship should not be put in a purely eleemosynary relation to his university, and should not be encouraged to think of himself as occupying the position of one paid to study. The writer of the paper called attention to the necessity of common action by the universities, particularly as to the time of award of fellowships, and two administrative details were suggested, namely, the simultaneous election of fellows by the different institutions, and the prompt exchange of the results of such elections between them. A series of resolutions was subsequently adopted recommending to the members of the Association simultaneous appointment and the immediate announcement that such appointments had been made.

At the second session, the general subject for consideration, "The exemption of educational institutions from taxation," had been assigned to President Eliot of Harvard and Professor Thomas W. Page of the University of Virginia. President Eliot presented as his contribution to the discussion of the question a statement recently made before the recess committee on taxation of the Massachusetts Legislature. There are two ways in this world, he asserted,

and only two ways that have ever been invented and successfully used to carry on the higher educational institutions. One way is by

direct support of the government. In various parts of the world all forms of government have used successfully the direct method of supporting the higher institutions of education. In this country most of the western states tax themselves heavily every year for the support of their universities and of their normal and technical schools. The other method is the method which was used by the first settlers on this spot, namely, the endowment method. The essence of this method is nothing but offering an inducement to public-spirited, private persons to give their money, chattels, lands, or buildings for the public use called higher education. The settlers in Massachusetts Bay offered the inducement to the public-spirited men and women who were ready to give their private money and property to the support of the higher education, and the government of the colony agreed that such property should be forever exempted from assessment for other public uses. That is the entire meaning of the exemption,—private money set aside for public use shall not be assessed thereafter for lower public uses or any other public uses.

The author of the paper called attention, in the first place, to the proposition that there is no burden whatever on the towns and cities which contain institutions of higher education, but, on the contrary, enrichment and elevation for those towns and cities which have the happiness of containing these institutions; and, secondly, to the effect of the exempted properties in different cities and towns on the rates of taxation in those towns. If the presence of exempted values were a burden, the rate of taxation in towns and cities heavily burdened in that sense would be higher than in towns and cities that had no such exempted values, or had much smaller values exempted. As a matter of fact, there is no relation whatever between the tax-rate of any city or town and the amount of property exempted therein for churches, schools, colleges, technical schools, and charities.

Reservations from taxation, he concluded, are not bad, burdensome wasteful things, but on the contrary they are highly profitable and precious things; and the question really is not how few reservations a community can get along with, but how many it can indulge in. The things which make it worth while to live anywhere in the civilized world, are precisely the things which are not taxed; the things exempted are the things which are in the highest degree profitable to the community. These invaluable reservations

from taxation are not a burden on the public. We get through the exempted institutions—the colleges, museums, churches, schools, hospitals, courts, libraries, gardens, commons and parks—the joys and satisfactions and the upward tendencies which make life worth living.

Professor Page's paper was a more general discussion of the matter in its various bearings. All the States of the south and the southwest, except Georgia, the writer stated, exempted from taxation such property of chartered colleges and universities as is used directly and exclusively for the work of education, accompanying the exemption with a provision, sometimes weakly enforced, that it shall not apply to institutions conducted for gain. Several of them, however, do not exempt revenue producing property of any kind that can be reached by the assessor, and nearly all of them tax such property when it is in the form of real estate. The main features of this policy reappear in all other parts of the Union. The exemption of any considerable mass of property from the duty of contributing to the material needs of the State is frequently opposed. A small amount of real estate, or wealth in other form used for charity, religion or education, is willingly exempted, but prejudice is manifested against anything partaking of the nature of an inalienable tenure. Another objection that is urged is that State aid in any form should be accompanied by State control, but it is expedient that some institutions should be altogether free from political influence; hence it is unwise to exempt them from taxation. And, lastly, it is maintained that the exemption of revenue producing property, particularly in the form of real estate belonging to any institution, works a hardship on the community where the property lies. It increases, according to this point of view, the burden of necessary taxation on the rest of the community by just the amount that is remitted to the institution, and when it is used to conduct what the law calls in some instances "secular" business, it puts at a disadvantage those engaged in the same business on property that is taxed. It is easy to show that this imagined hardship is made good to the community a thousandfold in material as well as immaterial ways by the existence within its borders of the institution that holds the property. To advocate a

general exemption law in this country would be unwise. Each institution seeking relief should be considered on its merits, and the relief granted should be determined, not so much by the amount and the immediate use, as by the nature and the location of the property which the institution holds.

An extra evening session, not included in the printed program, was devoted to an informal discussion of "The best means of introducing the pension system into American institutions of learning," a subject particularly within the province of the Association, because of the presence among the delegates of representatives not only of the beneficiaries under the Carnegie Foundation, but of church and state institutions.

At the third regular session, papers were presented by President Jordan of Leland Stanford and Professor H. B. Hutchins of the University of Michigan on the question, "Should men bearing the same title in any institution receive the same pay?"

President Jordan asserted that in the problem of the relation existing between salary and title, under the conditions ruling in American colleges and universities, three types of adjustment are possible. In the one case, a fixed salary may be attached to the professorship and to each of the lower grades of rank. Secondly, each grade may have a fixed minimum salary, with a system of automatic increase with length of service and for no other cause. Thirdly, the relation generally prevalent, the salaries in any grade are not definitely fixed, and increase of salary may be made at any time and for many reasons other than those connected with length of tenure. The first of these systems tends to establish a republic of letters. It would develop a condition in which a man once chosen for a chair is responsible to no one but himself, and in which he neither expects promotion or fears its failure, because his character and work are judged by no president, no committee and no executive board. The men in minor positions are professors in waiting, to receive recognition in case of vacancy or of departmental expansion. These, again, are held on an equality pending the opportunity to rise to greater responsibilities and greater remuneration. The second system is a modification of the first, with the added recognition of the fact that, with university men, the expenses of living increase with the years. The third system considers the problem from the standpoint of the efficiency of the university organism and of the actual value of the professor

to his students. In it, the element of competition appears, and the greater pecuniary reward goes with the greater academic service. The first and second systems imply a static organism, a university with its form and scope fixed once for all, and the professors as incumbents of established positions. The third system is dynamic. It implies the growth of the university organism, and the value of personality as a factor in different phases of growth. Taking universities as they are, the institution is neither a republic of letters on one hand, as there are students as well as professors to be considered; on the other hand, it does not find its homologue in a great business enterprise. It is not alone what the members of the faculty do, but the ideals they represent which is important.

The writer of the paper arrived at the conclusion that the practical working out of the salary problem demands that each grade or title should have a minimum salary pertaining to it, which should be large enough to insure comfortable living with due regard for the reasonable demands of cultured taste. Within each grade certain allowances of increase in pay should be made for length of satisfactory service. Above these minimum salaries there should be the power to advance the salary of any man when it is clearly for the interest of the efficiency of university work to do so. In each grade the authorities should have the option of leaving a particular teacher undisturbed at the maximum of his grade and time of service, or of advancing him in recognition of extraordinary ability or unusually valuable service. They must also have the option of promoting or of passing by any individual according to his deserts or the university's needs. In the lower grades, below that of professor, while the deserving character of a member must be considered, it must also be kept in mind that the scope of the university work and the financial limits of the university may prohibit promotions even when fairly deserved. Even very good men must often look abroad for their promotions. In the higher grades it is assumed that permanency of position is reasonably assured, and this should guarantee the minimum salary of the grade and time of service without any presumption of further increase unless fairly won by unusual distinction and recognition; but the university should then be free to recognize such service freely, both for the encouragement of scholarly ambition and to be able to retain its strongest men.

Professor Hutchins's paper considered the subject of a general discrimination in salaries on the basis of merit, from its ethical and administrative points of view. There is, he stated, at the pres-

ent time in most universities discrimination to a limited extent between men holding the same title. In some cases it is based upon length of service; in others, it is made in favor of men who perform extra duties. Sometimes, moreover, special endowments lead to discriminations. And occasionally the salary of a man is fixed above that of his associates in order to retain his services when he has been called at an increased salary by another university. Sometimes, also, special and exceptional circumstances put a man in a different class from that of his associates, although he may have the same title, and his exceptional position is recognized by a difference in salary. This happens not infrequently in professional schools, where a man in accepting a professorship makes a pecuniary sacrifice, or where his standing is such as to make the securing of his services particularly desirable. Or it may happen that there is a discrimination because some of the men are engaged in outside professional work. In each of the cases mentioned there is a definite reason for the discrimination which serves as a basis for the fixing of compensation. Although causing undoubtedly some friction and criticism, discriminations like those indicated are not subject to the objections that may be urged against a general policy of discrimination, and their wisdom and propriety are generally recognized. If we eliminate the cases to which reference has been made, it may be said to be the general custom in American universities to pay the same salary to men bearing the same title. Should the custom be continued, with the exceptions mentioned, or should there be a general policy of discrimination based upon merit? Or, to put the question differently, should the money value of the services of the university professor be fixed by the arbitrary standard of rank, or should it rather be determined by the same standards by which the value of services of like grade in other fields is determined?

In an admirable review of the whole question in its various bearings, the writer concludes that a general change to the merit system in the award of salaries is both impracticable and impossible.

If university trustees and university presidents were resourceful enough to devise schemes of discrimination that would be equitable, and were skillful enough to do so and preserve the peace,

the general adoption of the principle of discrimination would not be a wise exercise of authority. Some things it certainly would not accomplish. It would not secure for university service any considerable number of strong men who would not be attracted under the present system. If a man has in view the making of money as his principal object, he would rarely, if ever, even though his tastes were scholarly, select a university career, whatever might be the conditions as to salary. He would conclude at once, and he would be right, that no university under any salary system could offer pecuniary inducements at all comparable with those to be found in other fields. It would not improve the general situation as to salaries. Every man is entitled to a reasonable compensation for his legitimate labor. Even though his calling be not followed primarily for gain, a man is the better worker when he feels that his efforts are receiving adequate pecuniary recognition. It is generally conceded that such recognition is not accorded the college professor. All will agree that his salary should be generous enough to enable him to live in a manner befitting his rank, to meet his obligation to family and to society without embarrassment, and to lay aside something for the future; and we all know that under present conditions that cannot usually be done. Any plan that promises to secure the needed change should, of course, receive our hearty support, providing it does not involve a sacrifice of professional standing or the adoption of a principle that would be out of harmony with the spirit that should prompt the labors of the teacher. The general adoption of the principle of discrimination, however, would not solve the problem to any appreciable extent. It would advance some salaries, but it would reduce others. It certainly would not give the universities the additional funds that they must have before any improvement in the situation can be expected. By way of direct answer to the question, it may be said that the general adoption of a scheme of discrimination, if practicable, would not be a wise exercise of authority, as it would encourage a wrong attitude in the teacher toward his work. There are ethical considerations that should not be disregarded. It ought not to be made possible for a university career to attract simply because of pecuniary opportunities. It would not be a wise policy to place university service upon a competitive money basis, as it would tend to supplant the higher motives of duty and devotion to the cause that should characterize the life and work of the teacher and scholar with the sordid ambition that has so largely commercialized at least one of the learned professions.

The papers of the Cambridge Conference were more than usually suggestive, and the full attendance brought about the liberal interchange of opinion that is at all times the most vital, and not the least valuable, part of the proceedings of the Association, which, however, in other ways than this amply justifies its existence.

With every year it becomes much more than the object lesson in the solidarity of American educational effort that it has been described to be, although that in itself is an influence for cause and effect that is not to be lightly estimated. The Association can doubtless point to few actual accomplishments as the direct result of its organization, but there are still a few of considerable importance. The official acceptance in the universities of Holland and Belgium of the baccalaureate degree of any of the members of the Association as equivalent to the *testimonium maturitatis* of the home *Gymnasium* is more a mark of academic recognition than anything else, since few American students go, or ever will go, to those countries for their highest education, or any part of it. Of far greater importance is the action of the philosophical faculty of the University of Berlin, which has been followed by a general adoption throughout Germany, in accepting graduate work in any one of the universities comprising the Association as equivalent to work of the same character done at Berlin, in that it marks the beginning of an actual educational reciprocity between the two countries concerned which cannot but result to their mutual advantage. Both of these actions were based, as may be definitely asserted, upon the fact of the existence of an association of American universities and the published reports of its conferences as furnishing an actual basis of procedure which had before been lacking. The adoption of the recommendatory resolutions this year with regard to the simultaneous appointment of graduate fellows is an indication, and a very significant one, of the feeling that has developed from within, not only of solidarity of purpose in educational matters, but of identity of interest in their practical administration.

There is still some diversity of opinion among the members of the Association with regard to what should be the limits of its membership and what should be its purpose and scope. The action of the German universities, however, has practically settled the first

question, in that to open the doors of the Association to other institutions which could not fulfill in proper degree their part of the conditions involved would be practically to repudiate the *entente* that has been so auspiciously begun, and this the members of the Association who have the future of their own graduate work much at heart cannot desire to do. With regard to its scope, the Association seems to stand at the parting of the ways; whether, on one hand, it shall continue, as its declaration of purposes assert it to have been begun, as a place, and in fact the only place, in which to discuss those questions which are particularly the questions of the highest education, or, on the other, to make its provenience that of the rest of the many educational associations of the country, on the principle that anything that is concerned with education is germane in the end to the educational questions of the university. The Association is doubtless an excellent place, on account of the character of its membership, to discuss all such matters, but to extend it in this way is to weaken it—to make out of a unique condition that has unmistakably justified itself, a general condition that has already many counterparts, and possibly to doom the Association itself, for this very reason, to a speedy dissolution. The papers of the present Conference well represent the broad field of educational interest which the Association may legitimately and profitably exploit without surrendering its original declaration of purpose.

The perennial question of plan and scope of the Association was made the matter of a committee to report at the next Conference. No additional members were elected to membership, and no important questions of policy, other than the foregoing, came before the Association.

Officers were elected for the ensuing year as follows: President, Cornell University; vice-president, Catholic University of America; additional members of the executive committee, University of Pennsylvania, University of Michigan, and Columbia University, which still continues in the secretaryship. To this committee was left the determination of the time and place of the 1908 conference.

WILLIAM H. CARPENTER





RT. REV. GEORGE FRANKLIN SEYMOUR
CLASS OF 1850

GEORGE FRANKLIN SEYMOUR, D.D., S.T.D., LL.D.

CLASS OF 1850

ONE of Bishop Seymour's intimate friends paid him a fine tribute in saying that he was a "great man and a great bishop in the eyes of the world wherever he was known, but he was a greater man and a greater bishop in his private life."

Born in New York on January 5, 1829, he was in infancy deprived of the sight of one eye, as the result of an attack of ophthalmia, but this misfortune seems to have enhanced rather than retarded his love of study. While still a child he read everything that came within his reach, including Locke's "Essay on the human understanding," which he finished before he was eleven years old. After passing through the Columbia Grammar School, he entered Columbia College, and in 1850 completed his college course with the highest honors, receiving the "general testimonial," as it was then called, which placed him at the head of his class, and delivering the Greek salutatory, a poem in iambic trimeters. A year later he entered the General Theological Seminary, from which he was graduated in 1854. His first charge was a mission at Annandale, Dutchess County, New York, where within six years he gathered a considerable congregation, erected a fine stone church, and founded St Stephen's College, of which he was the first warden. During the next five years he was assigned by his bishop to the work of reorganizing several parishes, which he performed with like energy and success, and in 1862 he was appointed professor of ecclesiastical history in the General Theological Seminary. His profound scholarship qualified him for a position which was peculiarly congenial to his tastes, and one of his students writes of him that he "not only had the historical, but the oratorical gift, and commanded the respect of his pupils, not only by his knowledge but by his power of wielding it."

In 1875, Dr. Seymour was elected dean of the seminary and he began, amid great difficulties and with very limited means, the improvements which have since given the buildings and grounds of the

Seminary their beautiful and dignified character. Here he would doubtless have been content to spend the remainder of his days in the studious atmosphere of cloister and hall, but in 1878 he received a call, which he felt to be imperative, to the then newly organized bishopric of Springfield, Illinois, and in the spring of that year he was consecrated in Trinity Church, New York, the first Bishop of Springfield. The task of building up his new see involved immeasurable labor, constant travel and infinite personal discomfort, but his enthusiasm and energy were unflagging, and the hardships were accepted with easy good-nature, as when he humorously remarked of the poor, rambling sort of a house which was at first his residence, that "it was not the palace that made the bishop, but the bishop that made the palace." An effort is now being made to secure a Diocesan Endowment Fund of \$100,000 as a permanent memorial of his episcopate.

In his diocese he devoted the remaining twenty-eight years of his life to the work of the Church and the work of humanity with an ardor of which few men are capable. His genial and sympathetic nature appealed to the hearts of men as his eloquence and intellect did to their reason, and made him as profoundly beloved as he was respected. In his college and its prosperity he felt the warmest interest. Intense loyalty was one of his characteristics,—first to his Church, then to his college; and it will ever remain one of the hallowed associations which are already beginning to gather around St Paul's Chapel, that he was present and took part in the laying of its cornerstone, when on the last of many occasions he revisited his cherished *alma mater*.

J. B. P.

EDITORIAL COMMENT

On the twelfth of March, 1807, a charter was granted which established "The College of Physicians and Surgeons in the City of New York," "for the promotion of medical science and diffusing the knowledge of the healing art." In June, 1907, the medical school so established will celebrate in worthy fashion the completion of its first century of life, and will do so under the auspices of Columbia University as its medical department.

The One Hundredth Anniversary of the College of Physicians and Surgeons

Strange would a prophecy to this effect have sounded in 1811 to the eight men who formed in that year the first graduating class of the College of Physicians and Surgeons; though three of the eight were bachelors of arts of Columbia. For the College of Physicians and Surgeons had been founded as a rival to the faculty of medicine of Columbia College, which had begun the teaching of medicine in 1767 and had renewed it in 1792 after the long abeyance resulting from the Revolutionary War. But the rivalry was short-lived. In 1813, the faculty of medicine of Columbia College ceased to exist, and its members became members of the faculty of the newly established school, destined to become in its turn the medical department of Columbia, though in name only, forty-seven years later, in 1860, but in fact as well as in name seventy-eight years later, in 1891.

The governing body of the medical school created in 1807 was identical with the newly formed Medical Society of the County of New York, chartered, under the name of The College of Physicians and Surgeons, to teach what its members practiced. The changes of a century tell the old story that a calling is best taught when the effective impulse to teach it has been given by those who practice it, while the teaching body broadens its views and perfects its methods by contact with the other teaching bodies of a university, and learns as well, that the costly object-teaching of applied science can never be supported by the fees of quasi-apprentices, but must be maintained by the endowments of an *alma mater*. The charter of a century ago recognizes well the indissoluble union of "medical science" with "healing art." Devoted alumni and lay benefactors, the College of Physicians and Surgeons and Columbia University, have given good effect to those formal words which both exhort and prophesy. Side by side, on the present

site of the College, stand laboratory and hospital, without either of which all medical progress would be stalled in the mire of tradition, and all medical teaching would train men to do no better than their teachers. At the end of another hundred years may the strong current of research have swept away many a stubborn land-mark of the incurable!

An interesting feature of the great improvement that has taken place in recent years in the methods of teaching in the school of medicine is the introduction, at the risk of the charge of returning to an obsolete method, of an extensive system of recitations. To the obvious advantage of this change must be added in the present case that of largely supplanting the time-honored system of "quizzing" by private tutors. This system seems to have been a relic of the preceptorial system of the early days, one of the tasks of the preceptor being the personal drill of the individual. With the addition of an official third year to the old two-years curriculum and the accompanying improvement in methods of teaching, the preceptor ceased to be. But the quiz-master remained. The system grew to large proportions and developed its inevitable bad features. Its object largely became not the implanting of a broad knowledge of each subject by competent tutors specially trained therein, but the passing of examinations. Its method was frequently that of the cram; its instructors were not always masters of their subjects, and it was very expensive to the student. Many undergraduates employed the drill throughout their whole four years, while others postponed it until the vision of the longed-for hospital internship, the last and best prize of their student days, made them timorous as to their own unaided powers.

The exact percentage of value of the private tutor in the competition for the hospital has never been calculated, and is probably difficult to determine. Many of the patrons of the quiz system were students who took high rank in general in their classes, and the question may fairly be raised whether the hospital internship was gained because of the student's general superiority, or through the added training by the tutor. *Post* quiz is not necessarily *propter* quiz. It was often claimed for the quiz that hospital examiners have idiosyncrasies, a knowledge of which is of peculiar use to the candidate; by experience the tutor had learned these. It was claimed that by experience the tutor had come to know what subjects to emphasize and what to

neglect. Whatever the value of these and similar arguments, the tutor's reputation, whether justified or not, of always securing for his pupils the coveted positions, offered a strong inducement to the ambitious student to seek his aid, and the lists of the conspicuous tutors were always full. The weight of the arguments for the private quiz has, however, become greatly diminished by the fact that the official recitation has abolished most of such enterprises, and the students, with the aid of competent instructors under official sanction, can now settle quietly down to the task of learning the science of medicine rather than the art of passing examinations.

Another feature of the improvement in medical instruction is the constant increase in practical work in the laboratory, the clinic, and the hospital. With the beginning of the present session the clinical courses

The Clinic in Medical Instruction in the fourth year were reorganized to effect such a betterment. This was accomplished by making the fourth year student a part of the staff of the Vanderbilt Clinic and also by organizing classes in clinical pathology in connection with the work. The students are no longer shown special cases which have been worked up by members of the clinical staff, but they are required to interview the individual patients, to make their own diagnoses, and, under supervision, to direct the treatment of the cases. In the surgical dispensary and in both of the medical classes, which meet mornings and afternoons, this system has been inaugurated. Each student, therefore, comes in contact with individual cases of disease, makes a special study thereof, both for diagnosis and for treatment, and presents his cases before the rest of the section and the instructor. Under the old system each student spent a single hour in being shown cases of disease. Under the new system the hours of observation and work are limited only by the number of hours during which the clinic is open, and each group of students is busily engaged from half past nine to half past twelve in the morning, and from two to half past four in the afternoon, or as long as patients remain to be treated.

The laboratory of clinical pathology, which is connected with the Clinic, was enlarged during the summer and can easily accommodate fifteen to twenty workers. An instructor is constantly on duty, and the work receives the personal supervision of the head of the department, the professor of clinical pathology. This laboratory is used also by other students than those connected with the clinical courses,

who may be at work in other institutions and who may have the opportunity to collect specimens of pathological interest from such cases as may be presented to them in various clinics in different parts of the city. In this way it has been possible for the fourth year students to review their work of the formal class in clinical pathology of the third year, and to apply the methods which they have learned to the individual cases.

This process of combining all the modern methods of diagnosis with the study of cases of disease in whatever way they may present themselves, tends to crystallize the student's knowledge and to present medical facts and experience in much the same way as cases present themselves in general practice to active practitioners. No effort is made to select diseases of great rarity, but the common, simple cases in medicine are given as much stress as are medical curiosities. It is believed that the further improvement of medical education must be along these lines and the application of these principles to more and more numerous groups of patients.

The dedication of St Paul's Chapel and the opening of Hamilton Hall are events which mark with monumental distinctness the historic growth of the University, and for us these buildings stand not only as great works of architecture, but as the embodiment of the traditions of the past as well as of the hopes of the future. The pledge engraved upon the cornerstone of King's College, founded for "the advancement of the public good both in church and state," faithfully preserved during the century and a half since that stone was laid, finds in these buildings a new assurance that it will be maintained "to all generations." In the Chapel, the University possesses a building of which it has been said by an eminent critic of architecture "that nothing better has ever been done in New York," but those who were present at the dedication service must have been conscious that the building possesses in addition to its great architectural beauty a certain spiritual quality that declares it to be a house set apart for the worship of God. In the soaring lines of the dome there is an uplift which carries the thought with it, and throughout there is a sense of benediction and peace. Designed and constructed by the architects in the spirit which inspired the builders of the great cathedrals of the Middle Ages, the Chapel expresses in every line and detail the sincerity of its religious character. As a recent

writer has aptly phrased it, our students may well "learn religion from it, as well as in it."

In Hamilton Hall we are no less fortunate in having a building perfectly adapted to its purpose, enriched by many suggestions of the past, and sufficiently ample to provide for the growth of the College which it goes far to assure. In point of situation and design, it is the most conspicuous and dignified of the academic buildings comprised in the University, and its commanding position at the head of what is to be the College quadrangle, fitly suggests the sway which it will exercise over the college life which is to grow up around it, a life which the dean has eloquently described in what he terms "the golden promises" of Hamilton Hall:

Here will be nourished and exerted the multifarious influences that go to make college life the highest and best training for a man, an all around man, that has yet been devised; here will grow up a great college community, governed by enlightened student opinion, in which will be cultivated the liberal arts and sciences, the humanities that contribute strength and character to the individual, grace and refinement to society; here will be developed the potent activities initiated and conducted by the students, and a college spirit that instills into the minds and hearts of college men enthusiasm, life and vigor, by leading them to idealize their *alma mater*.

The action of the University Council in determining that, beginning with the year 1908, Commencement shall be held on the last Wednesday of May, marks one more step in the development of the

**Change in date of
Commencement**

policy to relate the University still more closely to the life and interest of the city of New York. By long-standing tradition, Commencement has come at the end of the second half of the academic year, and when the University was a college, and a small college, there were no embarrassments in having it so. The great growth of the University, however, and the marked change in the social habits of the people of New York, have resulted in making the second Wednesday of June too late a date for the University to bring together a thoroughly representative assembly of the men and women of New York. Moreover, it has been usual, in recent years, to bring all systematic instruction to an end early in May, so that the entire time and thought of the teaching and administrative staff might be devoted to the examination of candidates for graduation and to the perfecting of their records. As a result, the

best interests of some four thousand students have been sacrificed to the interests of one quarter of that number, and no small proportion of the teaching staff has found its work completed by the twentieth of May and yet held by University rules to remain in residence until Commencement Day.

The change which the University Council has decreed not only fixes Commencement Day at a date when it can be attended readily by those persons whom the University is most anxious to gather together at its great public functions, but it separates hereafter the examination of students who are candidates for graduation and the examination of students who are not candidates for graduation. An examination schedule for candidates for graduation will be issued which will provide for the examination of candidates for graduation beginning early in May. On the other hand, the instruction to both undergraduate and graduate students who are not candidates for graduation will continue until the day before Commencement, and the examination of such students will begin on the day following Commencement and continue until the close of the second half-year, which would remain, as now, the second Wednesday of June. The student who spends three or four years in University residence will gain several weeks' instruction by this plan, as the lengthening of the earlier years of his course will more than offset the shortening of his final year. On the other hand, many officers of instruction will be relieved of the necessity under which they now rest of remaining at the University for two or three weeks after their stated duties are at an end. The Commencement of 1908, the first to be held in accordance with the new academic calendar, will fall on May twenty-seventh and the second half-year will end on June tenth.

The increased interest of the alumni in the University has been manifested in no stronger way during the past ten years than by their attendance at Commencement. With the change in the date

**Alumni at Com-
mencement**

of this function, it would seem desirable to enlist the cooperation of the alumni in making the various exercises under their control blend with the more formal and official program. The alumni luncheon with the opportunity to hear addresses from the recipients of honorary degrees is certainly a most pleasant occasion, yet with the increasing interest and attendance have arisen many problems in the way of service and seating-room.

The decennial class by its provision of music and sports on South Field also contributes to the pleasures of the day, and now that Hamilton Hall and the dormitories are completed, it might be possible to make the affair more dignified and interesting without detracting from its informal character. As the turf on South Field should be in good condition by Commencement, it might be possible to provide suitable seats, and have the music on the eastern side of the quadrangle, near the buildings, while a suitable portion of the field proper could be roped off for the sports.

The attempts of the alumni for the past five years to hold reunions in the evening have not been altogether successful, largely on account of the difficulty of making suitable arrangements for the dinners, and of preparing a program for University Hall that could be conducted so as to interest the many graduates who are only too ready to return to the University at this time. That a large number of classes do desire to hold dinners on this occasion, seems well established, and some means must be found to provide for them either on the University grounds or in the immediate vicinity. Whether the indoor meeting in the evening in its present form should be retained as a feature of the alumni program is a debatable question, though the illumination of the grounds and procession of the younger graduates seem susceptible of being developed into a most interesting spectacle. It is to be hoped that the alumni will not be slow to take advantage of the new Commencement date and attest the wisdom of the change by an increased interest in the academic and social features of the annual function.

On both sides of the water the exchange of professors between Columbia University and Berlin University has proved, during its first year of trial, eminently and encouragingly successful. It has

The Exchange of Professors been successful from the academic point of view, in that each of the professors—Professor Schumacher here, and Professor Burgess in Berlin—has attracted to his public lectures a very considerable body of regular students, and, what is of even more importance, has conducted a seminar for advanced students which has proved highly satisfactory. The exchange has been successful, too, from a broader point of view. Each of these ambassadors of civilization has been able to reach non-academic audiences; each has addressed dozens of learned societies and social clubs

in New York, in Berlin, and in other cities of the United States and of Germany. To a large extent, the success of the experiment has been due to that part of the Columbia-Berlin plan which was most novel and which aroused, in advance, most doubt—to the arrangement that each of the visiting professors should deliver his message in the language of his hearers. Professor Schumacher has shown himself a master of English speech; Professor Burgess has been praised by the German newspapers for the excellence of his German.

One of the chief purposes of the exchange, the promotion of a better understanding between the two countries through the establishment of intimate personal relations between their leading scholars, has unquestionably been attained. Professor Burgess writes that he has made many friends in Berlin. All of us who have learned to know Professor Schumacher will testify that he leaves many warm friends in New York.

Columbia University has on many occasions offered its hospitality to large and distinguished gatherings, but the convocation week meeting of scientific societies held here from December 26 to January 1, *Convocation Week at* more completely perhaps than any other event *Columbia* tested and demonstrated the resources of the University. The registration of members of the American Association for the Advancement of Science was over one thousand. A large percentage of the members, however, did not register, and there were twenty-one scientific societies meeting in affiliation with the association. Thus there were three hundred members of the American Chemical Society in attendance, of whom 103 registered as members of the association. If the conditions were similar in other sciences, there were some three thousand scientific men at the meetings, and to these must be added the ladies who accompanied them and a large number of local members and guests. There were about eight hundred scientific papers presented before the ten sections of the association and the twenty-one societies. In addition to these organizations, there were a large number of joint and divisional meetings, and of meetings of councils, boards, committees and the like. The University was able to provide so adequately for all the conditions, and with such complete lack of friction or apparent effort, that very few of those present realized the magnitude and complications of the meeting.

All the societies met at the University on the first day. Their mem-

bers were welcomed in the morning by the president and entertained by him at a reception in Earl Hall in the evening. Although Hamilton Hall was not quite ready for use, the halls and lecture rooms were entirely adequate, each department, as a rule, providing for the science with which it is concerned. The Commons supplied luncheons and dinners to very large numbers. Earl Hall afforded admirable headquarters, and the smokers at the Faculty Club once more showed the usefulness of that institution. On the subsequent days, there was some scattering, several of the societies and sections meeting in accordance with their interests at the American Museum of Natural History, the Rockefeller Institute, the Botanical Garden, New York University, and the City College.

It is of course quite impossible to give here any account of the scientific programs or of the business transacted. A list of the papers presented and an abstract of the proceedings would more than fill a number of the *QUARTERLY*. From all the rest one item may be singled out—for though its connection with the Columbia meeting may have been accidental, it is none the less appropriate and significant—namely, an amendment to the constitution of the association establishing a section of education.

The attention of the readers of the *QUARTERLY* is called to the Hamilton Hall number, published as an illustrated supplement of the regular March issue and containing a full account of the opening ceremonies, of the special meeting of the Alumni Association, the report on the statue of Alexander Hamilton, and other interesting items connected with the new building. This supplement has been printed for the Alumni Association of Columbia College, which has agreed to meet the cost of publication, thereby enabling the *QUARTERLY* to increase considerably the size of its regular issue. The June number is to be devoted largely to Teachers College.

THE UNIVERSITY

Considerable interest was manifested by the several departments of instruction in the meetings of learned societies held during the Christmas holidays, the following reports having been received by the QUARTERLY. All reports not received in time for this issue will be included under departmental notes in the June number.

The twenty-first session of the **Association of American Anatomists** was held in the anatomical building of the College of Physicians and Surgeons on December 27, 28, and 29. The meeting, both as regards the number in attendance and the interest of the scientific communications, was the most successful in the history of the Association. The department of anatomy presented the results of an extensive research in the development and morphology of the venous and lymphatic systems. This work, extending over the past two and a half years, has been carried on jointly by the anatomical departments of Columbia and Princeton Universities, and the conclusive and satisfactory results obtained are evidence of the value of such inter-university cooperation, through which the material controlled by each of the institutions is made available for combined investigation. The following papers were presented by members of the staff:

Contributions to the morphology and development of the vascular system:

1. Professors Huntington and McClure: Development of the postcava in the cat.
2. Dr. William Darrach: Variations of the postcava and tributaries as observed in five hundred examples of the domestic cat.
3. Professors Huntington and McClure: The interpretation of variations in the venous system of the adult cat, based on its development.
4. Dr. Schulte: Range of variation in the postcava and tributaries in Australian marsupials.
5. Professors Huntington and McClure: The development of the main lymph channels of the cat in their relation to the venous system.
6. Dr. William Darrach: Report on the anatomy of *Symmelian*.
7. Professor George S. Huntington: Note on the parotid of *Hyrax Capensis*.

The eighth annual meeting of the **Astronomical and Astrophysical**

Society of America was held at Columbia University December 27-29. Professor Jacoby was chairman of the local committee of arrangements, and with him were associated Professor Poor and Mrs. Henry Draper.

Professor Jacoby, who is a member of the Society's council, was designated to act as editor of the proceedings for 1907 and 1908.

At the meeting of the **American Chemical Society**, held at the University during convocation week, several officers and students of the department of chemistry contributed to the programs. Dr. Falk presented a paper before the section of physical chemistry; papers were presented before the biological section by Professor Gies and others (see p. 190); and before the organic section by Professor Bogert and by Messrs. Wiggin, Sinclair, Seil, Renshaw, Klaber and Nelson. In all, some twenty papers were presented from the various chemical laboratories of the University. The late Professor E. H. Miller was to have acted as chairman of the inorganic section. Professor Chandler delivered a lecture on "The electrical industries at Niagara Falls" before the American Association for the Advancement of Science at the College of the City of New York.

The **American Economic** and **American Sociological Societies** held their annual meetings at Providence on December 26-29, 1906. In the program of the former Professor Clark was to have presented a paper entitled "On what principles should a court of arbitration proceed in determining the rate of wages." In consequence of Professor Clark's enforced absence, the outline of his paper was read by Professor Seager. Columbia was also represented by Professor Whitaker, who contributed to the discussion of "The relation of the protective tariff to the trusts"; while Professor Lindsay, the incumbent of the recently created chair of social legislation, read a paper on "The extent of child labor in the United States." Before the Sociological Society Professor Giddings was to have discussed the question, "How should sociology be taught as a college and university subject," but he, too, was prevented at the last moment from attending the meeting. Mr. Tenney took part in the discussion on "Social consciousness." As a whole the meetings of the two organizations were unusually successful both from the point of view of attendance and the quality of the papers and discussions. A number of graduates of the school of political science now teaching in other institutions were present and took a distinguished part in the exercises.

Before the close of the session Professor Giddings was reelected a vice-president of the American Sociological Society, and Professor Seager was reelected a member of the executive committee of the American Economic Association.

The officers of the **department of geology** participated in the following meetings:

Before the *Geological Society of America* Professor Kemp read a paper on "The preglacial and glacial physiography of the valley of the lower Hudson"; Professor Grabau presented two papers, one on "Age and stratigraphic relations of the Chattanooga black shale," and one on "The Medina sandstone problem"; Dr. Berkey read a paper on "Limestones of Westchester and Putnam counties, N. Y.," and Dr. Julien presented one on "Relations of physiography to structure at Manhattan Island and vicinity," and another on "Glaciation of Manhattan Island."

Before section E of the *American Association for the Advancement of Science* the following papers were read by members of the department: Professor Grabau, (1) "Discovery of the Naples fauna in Michigan," (2) "Subaërial erosion-cliff of Mid-Devonic time in Michigan," and (3) "Types of cross-bedding and their stratigraphic significance"; Dr. Berkey, "The relations of structure and physiography in the Highlands of the Hudson"; T. C. Brown, "Early stages of *Streptelasma* and allied forms"; J. H. Wilson, "The fourth center of glacial dispersion."

Before the *Association of American Geographers*, Professor Grabau presented a paper on "The classification of marine life-districts."

Papers were also read by the following former students in the department: Bailey Willis, '79 S., D. H. Newland, fellow 1896-1897, and D. W. Johnson, fellow 1903-1904.

Professor Kemp was chairman of the local committee of arrangements for the Geological Society of America and is at present one of the councilors of the society.

At the meeting of the **American Historical Association** which took place in Providence, December 26-29, the historical department of Columbia was represented by Professors Osgood, Dunning and Robinson and Dr. Haworth. Professor Robinson participated in the discussion in regard to the appropriateness of the term "Renaissance" as applied to the literary and artistic progress of the fourteenth and fifteenth centuries. An important paper was presented by Miss Louise

Loomis on the revival of Greek studies in the fifteenth century. This was the outcome of the investigations in regard to "Medieval Hellenism" which she submitted as her dissertation for the Columbia doctorate.

The **American Mathematical Society** held its thirteenth annual meeting at Columbia University on December 28-29 with an attendance of over eighty members. The program included papers by Professor C. J. Keyser, "Circle range transversals of circle ranges in a plane: a problem of construction" and "Concerning the analytic treatment of geometric involution"; and by Professor Edward Kasner, "Systems of extremals in the calculus of variations" and "The motion of a particle in a resisting medium." Professors F. N. Cole and D. E. Smith were elected secretary and librarian, respectively, and members of the committee of publication.

At the meeting of the *American Association for the Advancement of Science*, Professor Kasner, a vice-president of the association, served as chairman of section A (mathematics and astronomy), and, at a joint session of this section with the mathematical and astronomical societies, presented a paper on "Dynamical trajectories."

Professor Keyser delivered an address on "The introduction of modern notions into the geometry of secondary schools" before section D (mathematics) of the *New York State Science Teachers Association* at the meeting of December 26.

On Thursday, December 27, Professor Thomas S. Fiske presided at a conference held in Teachers College for the purpose of considering the desirability and practicability of organizing a national federation of societies of teachers of mathematics and the natural sciences. The conference recommended the formation of such a federation and tentatively organized a council to serve for the ensuing year. Professor Fiske was elected president of the council.

At the twenty-fourth annual meeting of the **Modern Language Association of America**, held at New Haven, the following papers were presented by members of the division of modern languages: Professor Brander Matthews, "Why five acts"; Professor J. E. Spingarn, "The Renaissance treatises on honor, and their influence on European letters"; Dr. Cunliffe, "Italian prototypes of the masque and dumb show," and Dr. Krapp, "A social view of language." In addition to the above, the meeting was attended by Professor Fletcher of the department of comparative literature, Professors Trent and Thorndike of

the department of English, Professors Cohn, Todd, and Loiseaux, and Doctors Fitz-Gerald, Gerig, and Gill of the Romance department, and Professors Thomas, Bagster-Collins and Hervey, Dr. Braun, and Messrs. Heuser and Bechert of the Germanic department.

Professor McWhood was a member of the executive committee of two in charge of the annual meeting of the **Eastern Educational Music Conference**, which was held at Wellesley College on December 27. The 1907 meeting of the Music Teachers National Association is to be held at Columbia University.

The annual meeting of the **American Physiological Society** occurred in New York, December 27-29, the second day's session being held at the physiological laboratories of the College of Physicians and Surgeons. The following papers were presented by Columbia instructors: Professor F. S. Lee: The cause of the *treppe*; methods of studying fatigue (a demonstration). Professor W. J. Gies: New chemical facts about tendon and compound proteins. Dr. W. N. Berg and Professor W. J. Gies: A further study of *peptolysis*. Dr. W. Salant: The formation of sugar from amino-acids. Dr. W. Salant and Dr. G. M. Meyer: On the elimination of radium in normal and *nephrectomized* animals.

During convocation week the *American Chemical Society* held a joint meeting with section C of the *American Association for the Advancement of Science*, at which the following papers were presented by Columbia instructors and students from the department of **physiological** (now biological) **chemistry**: F. S. Weingarten: The influence of internal hemorrhage on chemical changes in the organism, with particular reference to protein catabolism. Gustave M. Meyer: On *iodomucoid*; A preliminary report on the toxicity of some artificial dyestuffs; On the excretion of barium. G. M. Meyer and W. J. Gies: On *alkaverdin*, the coloring matter of the purple pitcher plant, *Sarracenia purpurea*. F. C. Hinkel and Wm Salant: The influence of alcohol on the excretion of inorganic constituents of the urine. Wm Salant: On the formation of sugar from amino-acids; A study of the elimination of casein in the bile, with some remarks on the nitrogen content of the bile. G. M. Meyer and Wm Salant: On the elimination of radium in normal and *nephrectomized* animals. D. R. Lucas: Effects of *caffeine* on the contractions of the ureter. George Baehr and Harry Wessler: A study of the effects of cerium salts and of salts of some related metals. W. N. Berg and W.

J. Gies: A study of conditions affecting peptic digestion. D. E. Roelkey and W. J. Gies: Putrefaction of tendon, collagen and mucoid. Julia A. Emerson and W. H. Welker: A further study of the chemistry and pharmacology of *Ibervillea Sonorae*. Alice A. Knox and W. H. Welker: The effects of salts of some rare elements on seedlings. W. J. Gies: Some chemical notes on specimens of American amber; Effects of acids on tendon, with some notes on the preparation of collagen and mucoid; On a glucoprotein in tendon that is non-precipitable by acid; New studies of mucoids and nucleoproteins: 1, inorganic salts; 2, organic salts; 3, color compounds; 4, quantitative determination.

Professor Gies served as secretary of section K (physiology and experimental medicine) and a member of the council of the American Association for the Advancement of Science, and as chairman of the biochemical section of the American Chemical Society.

In connection with the meetings of scientific societies held in New York during convocation week, the **American Society of Biological Chemists** was organized on December 26. Professor Gies was chosen as its first secretary and a member of the council.

At the scientific exhibition held under the auspices of the *New York Academy of Sciences* at the American Museum of Natural History during convocation week, Professor Gies served as chairman of the committee in charge of the physiological division. Members of the staff of the departments of physiology and physiological chemistry contributed to the exhibition.

Members of the **department of zoology** participated in the following meetings of convocation week:

Before the *American Society of Zoologists*, Professor T. H. Morgan presented a paper (with E. P. Lyon) on "The influence of a strong centrifugal force on the sea-urchin egg"; Professor G. N. Calkins read a paper on "The maturation-divisions in *Paramœcium*"; Professor E. B. Wilson read one on "Secondary chromosome-couplings in hemiptera and their possible significance," and Professor Bashford Dean one on "Exhibition of embryonic stages of the Japanese frilled shark, *Chlamidoselachus*, with notes on the development of this species."

For the general discussion of the *American Society of Naturalists* on the determination of sex, Professor Morgan offered a set paper on "The general factors of sex-determination in animals"; and Professor Wilson submitted one on "Sex-determination in relation to fertilization and parthenogenesis."

For the general discussion before the section of experimental medicine of the *American Association for the Advancement of Science* on the protozoa in relation to disease, Professor Wilson submitted a paper on "General introduction on the protozoa considered from the standpoint of the general zoologist"; and Professor Calkins read a paper entitled "General introduction to the subject of protozoa as disease causing agents."

Professor Bashford Dean was elected president of the *American Society of Paleontologists*, and presented a paper on "Notes on the morphology of fossil sharks." Professor E. B. Wilson was elected vice-president of the American Association for the Advancement of Science and chairman of section F, zoology.

* * *

In the December number of the *QUARTERLY* allusion was made to the manner in which certain of Professor Burgess's utterances at Berlin had been distorted in the American press. On December 19, Professor Burgess's Inaugural Lecture in connection with a lecture on the Monroe Doctrine, delivered in New York, Judge Charles G. F. Wahle read the following letter from Professor Burgess:

My dear sir: I am sending you by this mail under another cover a copy of the lecture to which you refer. You will not find in it, however, any discussion of the Monroe Doctrine. The Monroe Doctrine is used as an illustration merely of the freedom of speech of a professor as compared with a diplomatist in discussing delicate questions. I say that no foreign Government could even propose to the United States to discuss the question without running the risk of exciting the enmity of the Union, and that our statesmen have no conception that this doctrine is obsolete, or that the changes in the constitutions and policies of the European states since it was formulated have made it meaningless. I said that I could, as a professor, speaking from my own convictions and involving no one else, express any opinions on this question or any other question which I considered true.

The passage has for its purpose only the demonstration of the professional freedom of discussion when compared with the lack of this freedom on the part of those who officially represent a country, and is no discussion of the Monroe Doctrine and no expression of any opinion about it, except a hypothetical one. The Germans understood it as I intended it, and have taken it as a notice that the Union is a unit in support of this doctrine. Very truly yours,

JOHN W. BURGESS

BERLIN, November 12

In a letter to the editor of the *New York Times*, published December 2, Professor Munroe Smith had already given a similar explanation. He indicated that Professor Burgess's allusion to the Monroe Doctrine was an "aside," and that "its relation to his main argument would be correctly indicated by putting it in parentheses." He demonstrated that Professor Burgess's remarks in no wise misled the German or the British public, and that they attracted no especial attention on that side of the Atlantic until the Americans in Europe had heard the opinion of their home press. He then showed where the distortion of Professor Burgess's remarks originated, and how the legend grew that the Roosevelt professor had misrepresented America and misled Germany. Independently of its immediate purpose, this part of Professor Munroe Smith's letter has permanent value as a contribution to the natural history of "news."

. . . The one American correspondent at Berlin who found Professor Burgess's remarks on the protective theory and the Monroe Doctrine interesting was the correspondent of the *New York Times*. A dispatch from him was published in the *Times* on October 28, the day after the lecture. It gave with substantial accuracy Professor Burgess's statement of his personal views. It gave nothing else, thus omitting his statement of the views held by the American Government and the American people. As printed in the *Times*, this dispatch was immediately followed by an Associated Press dispatch, which gave no abstract of or citation from the lecture itself, but stated that the Roosevelt professor opened his lecture by reading a letter from President Roosevelt, and that at the close of the lecture the German Emperor called for cheers for President Roosevelt.

These two dispatches taken together, and taken in connection with the incorrect but very general impression that the incumbent of the Roosevelt professorship was appointed by President Roosevelt, suggested that Professor Burgess had given the impression that he was a semi-official exponent of President Roosevelt's views on the protective theory and the Monroe Doctrine. To all who know Professor Burgess this suggestion appeared incredible; but it was at once accepted by a large number of American newspapers, and it furnished the basis for the editorial articles referring to the lecture which were published in New York and elsewhere in the United States on October 29 and 30. The *New York Times* at first displayed commendable caution, saying on October 29 that it preferred to wait for a full report. Many other journals apparently considered the data sufficient and promptly expressed their opinions. Nearly all declared that Professor Burgess had given to the German Government and the German people a false impression of the attitude of the American Government and the American people.

On October 30 and 31 the newspapers heard from Washington that Professor Burgess had not spoken as a representative of the Government, and from Berlin that he had expressed merely his individual opinions. Many of them continued, nevertheless, to charge him with misrepresenting the American people. The *New York Times* still reserved judgment. It said (October 31) that "in so far" as Professor Burgess might lead any Germans to question American devotion to the Monroe Doctrine, he would utterly mislead them.

The next stage in the growth of the misconception was reached in Germany. Among the Germans the news of the comments made in the United States aroused great surprise. They knew what Professor Burgess had said, and they could not understand the charges brought against him. One thing only was clear to them—that Professor Burgess's statement, that the protective theory and the Monroe Doctrine were "almost sacred" in the United States, had received an unexpectedly sudden and emphatic corroboration. Among the Americans in Germany there was now apparently some reaction of resentment against the Roosevelt professor. How general or how strong this reaction was it is at present difficult to say; but from trustworthy private advices the present writer is able to deny categorically some of the statements which were sent from Berlin to Paris and to the United States. It is not true that Professor Burgess had accepted an invitation to speak at the American Thanksgiving festivities and that this invitation was subsequently withdrawn. It is not true that the American consul general in Berlin declared that Professor Burgess had misrepresented the attitude of the American people and that his utterances would do great harm. When the consul general first heard of the remarks made by Professor Burgess—and he first heard of them from an American correspondent—he remarked that if Professor Burgess had given the impression that the American people were no longer devoted to the Monroe Doctrine the professor had given a false impression, which would do great harm. The consul general has since seen the text of Professor Burgess's remarks, and has stated that no such false impression could be derived from the lecture. Certain other statements which were cabled from Germany to the United States are apparently equally baseless. It is inconceivable, for example, that the American ambassador in Berlin could have sent a dispatch to Washington complaining of the irreparable damage which the Roosevelt professor had inflicted upon American diplomacy, for the American ambassador was fully aware that no damage had been done; and it is impossible that the ambassador could have urged the professor's recall, for the ambassador knew what the author of this rumor evidently did not know, that the United States Government has no authority over the Roosevelt professor.

When these and similar reports from Berlin reached the United States—and they arrived several days before the full text of Professor Burgess's lecture was received—there was a fresh outburst of editorial censure. It was at this point that the *New York Times* abandoned

its previous attitude of reserve and expressed an unconditional judgment. The Roosevelt professor, the *Times* said on November 6, had "gravely misrepresented America and gravely misled Germany." He was a "missionary of mischief" and he should be recalled before he did further harm. . . .

In its reply to this letter the *Times* tacitly withdrew these charges, insisting, however, that Professor Burgess had been guilty of an "indiscretion." This accusation brings the debate back to the question of academic liberty—a question which a few of the most rational and most respected American journals recognized from the outset as the only real question involved.

* * *

The following memorandum by President Butler in relation to the policy to be pursued by the University toward athletic sports and **The University's Policy toward Athletics** intercollegiate contests will no doubt interest the readers of the *QUARTERLY*:

On December 19, 1905, after the action of the committee on student organizations disbanding the football association of Columbia University, the University Council took action, approving what had been done by the committee on student organizations and advising the President "to take such further steps as may seem to him proper to correct the conditions at Columbia, which have produced the demoralization of sentiment above referred to, and to restore athletics to their proper place in the life of the University."

Acting in accordance with this advice of the University Council, the President, on December 22, 1905, constituted three advisory committees on athletic policy: one consisting of nine officers of instruction; one consisting of nine alumni; and one consisting of nine undergraduates, and requested them, severally and in conference, to prepare for consideration by the appropriate University authorities, a plan by which the ends described by the University Council as desirable might best and most speedily be reached.

The three committees devoted much time and thought to the problems before them, and in due time submitted their reports to the president. The report of the committee of officers of instruction was received on April 7, 1906; the report of the committee of alumni was received on June 5, 1906, and the report of the committee of undergraduates was received on September 15, 1906.

These reports have been carefully examined and considered, and the conclusions of the president in regard to their recommendations are as follows:

Such academic control as is deemed necessary is now exercised, pursuant to a resolution adopted by the University Council November 19, 1901, by a University committee on student organizations appointed

by the President. This committee should hereafter consist of five members instead of three as heretofore.

1. There should be no radical change in the method of administration of athletic sports now in force at Columbia.

2. The University committee on student organizations should remain, as now, with its present powers. The right to permit or to prohibit a given sport rests with this committee, for the reason that no association of students can be organized or continue in existence without its permission if the end or purpose of such association is to appear before the public in any way. When, however, as in the case of intercollegiate football, this committee has sought and obtained the approval of its action by the University Council, it will not be proper for the committee, without the consent of the University Council, to reverse its policy.

The President will ask the committee on student organizations when, for any reason, it is proposed to disband any given association or to discontinue any sport, to notify the graduate directors of that association or sport and the manager, and to give to such graduate directors, to the manager, and if desired, to the board of student representatives, an opportunity to be heard in regard to the proposed action before it is finally determined upon.

3. The direct authority of the University in athletic matters should be limited, as now, to (a) the permission or prohibition of any given sport; (b) the establishment of a physical examination, which all students intending to compete in athletic contests must pass satisfactorily; (c) the requirement that students participating in intercollegiate contests shall maintain a satisfactory standard of scholarship in their academic work, and shall not absent themselves from the University without permission; (d) the supervision, as at present, by the controller of student organizations of the budgets of the various athletic associations. So much is necessary in order that the University may fulfill its just responsibility to the students and to the public.

4. The University committee on athletics, consisting of alumni and students appointed by the President, should continue to exist as now, possibly enlarged in number, and should have direct and complete control over all other matters relating to athletic sports. These include: the establishment and enforcement of rules of academic and amateur eligibility, save in regard to physical condition and scholarship; the supervision of managers, coaches and training-tables and all matters of similar character.

In order that the University committee on athletics may work in entire harmony with the committee on student organizations, I should propose to add to the University committee on athletics, as *ex-officio* members, the chairman of the committee on student organizations and the director of the University gymnasium.

5. Schedules of games, whether in New York City or elsewhere, should be approved both by the committee on student organizations and

by the University committee on athletics before adoption. It should be the function of the committee on student organizations to see that games are not arranged at such frequent intervals or at such distant points as to conflict with satisfactory attendance upon University exercises. It should be the duty of the University committee on athletics to see that the schedule of games proposed does not tax unduly the strength of the participants, or conflict with any other legitimate interest.

6. In view of the existence of a committee on student organizations, of a committee on athletics, of a comptroller of student organizations and of a director of the gymnasium, it does not appear to be necessary or desirable to provide for an additional officer to be known as director of athletics. Certainly the University has no funds with which to compensate such an officer. If, however, at any future time the University committee on athletics should regard such an office as desirable, and if provision could be made for the compensation of its incumbent in the budgets of the several athletic organizations whose interests he would primarily serve, such an officer might readily be appointed.

7. The President will do what he can to secure the discontinuance of any prescribed academic exercise in Columbia College or in the schools of applied science after four o'clock p. m., in order that there may be ample time at the close of each day for the general participation of students in outdoor sports.

8. So far as the funds at the disposal of the Trustees will permit, the President will gladly recommend that South Field be kept in the best possible condition as a convenient exercising ground for students interested in various forms of athletics.

9. The project for a University stadium, with ample accommodations for all forms of outdoor sport, this stadium to be built in the Hudson River as an extension to Riverside Park, between 116th and 120th streets, will be pressed to completion as rapidly as funds can be had. When it is completed the students of Columbia University will have as convenient and as well-arranged an exercising ground as can be found anywhere.

10. The revised and simplified rules in regard to the scholarship of students intending to participate in athletic sports and intercollegiate contests, approved by the University Council May 15, 1906, and referred to the President with power to put them in operation, are, in the judgment of the President, a decided improvement upon the existing rules, and should be put in operation at the beginning of the next half-year, namely, February 1, 1907.

11. An effort should be made to secure the widest possible participation by students in athletic sports. Perhaps this can best be accomplished by the organization of clubs and teams, representative of different schools, different classes and different residence halls. It is important that students should be encouraged to participate in outdoor

sport for their own good and for the sake of the game, regardless of their ability to excel.

12. Gate receipts are, in the opinion of the President, an undesirable feature of collegiate and intercollegiate athletic contests; but no practicable plan has yet been presented for doing away with them. The directors of the several athletic associations and the comptroller of student organizations will be urged to use all possible care to avoid extravagance and waste in the expenditure of moneys received in gate receipts or contributed by subscription in aid of athletic sports.

The University committee on student organizations will consist of the following:

| | | |
|--|--------------|--------------|
| Professor Herbert G. Lord, <i>chairman</i> | Term expires | July 1, 1911 |
| Professor George C. D. Odell..... | " " | July 1, 1910 |
| Professor Henry B. Mitchell..... | " " | July 1, 1909 |
| Professor James F. Kemp..... | " " | July 1, 1908 |
| Professor Marston T. Bogert..... | " " | July 1, 1907 |

The University committee on athletics will consist of the following:

| | | |
|---|--------------|--------------|
| Francis S. Bangs, '78, <i>chairman</i> | Term expires | July 1, 1909 |
| Allen B. A. Bradley, '02..... | " " | July 1, 1908 |
| Robert LeRoy, '05..... | " " | July 1, 1907 |
| George Norris, '07, College..... | " " | July 1, 1907 |
| William G. Palmer, '07, College..... | " " | July 1, 1907 |
| Professor Herbert G. Lord, <i>ex-officio</i> | | |
| Adjunct Professor George L. Meylan, <i>ex-officio</i> | | |

* * *

Never in the history of the University have the lectures offered to its members and to the general public been as numerous, as varied and of as broad interest as since the beginning of the year 1907. The

Public Lecture Offering weekly French lectures and the lectures under the auspices of the department of Indo-Iranian languages have been continued; the department of Germanic languages has contributed a lecture by Professor Eugen Kühnemann on "Gerhart Hauptmann"; and the faculty of fine arts is offering a series on "Italian painting of the Renaissance." In addition, three interesting lectures by Professor M. Honda of Tokyo on "Japanese life and customs" were given in January; the department of geology offered a lecture by Dr. Charles Truax on "Yellowstone Park"; and the department of music made arrangements for three concerts of chamber music during February, the first and third by a trio of which Professor Rübner is a member and the second by the Dannreuther String Quartette.

The Hewitt lectures at Cooper Union this year are being delivered by Professor Crampton of the department of zoology on "The doctrine of evolution" and are attracting unusual attention. Unfortunately, Professor Hirth's lectures at the Metropolitan Museum of Art on "Chinese art" are not to be given this year, as the Museum has as yet no hall suitable for the purpose. The second series of lectures on mathematical physics offered under the department of physics promises to be as interesting and important in the history of American science as the lectures of Dr. Bjerknes and Dr. Lorentz were last year. The lecturers for 1907 are Professor Otto Lummer of Breslau, who lectures in February and March on "The laws of radiation of the black body," and Professor Joseph Larmor of Cambridge, who will begin a course on March 27 on "Physical dynamics."

In addition to the above, which constitute about the normal annual offering of the University, are the following series inaugurated this year: The George Blumenthal Foundation, established last year, enables the University to offer two important courses on politics. The first, delivered in January and February, by Dr. Albert Shaw, of *The Review of Reviews*, on "Practical problems of American politics"; the second, in March and April, by President Woodrow Wilson, of Princeton University, on "Party government in the United States."—A notable and very largely attended series of five lectures on "Socialism," by the author of "Aristocracy and evolution," Mr. W. H. Mallock of London, was given in cooperation with the National Civic Federation.

The opening of St Paul's Chapel has given the University an opportunity to conduct an important series of organ recitals by Samuel A. Baldwin, organist of Holy Trinity of Brooklyn. It is planned to have at least one organ recital a week throughout the academic year.

Professor William James, who has just retired from active service at Harvard University where he has been teaching for more than thirty-five years, delivered eight lectures between January 29 and

February 8, on the subject of "Pragmatism; a new name for an old way of thinking."

At the hour fixed for the first lecture the lecturer was obliged by the size of the audience that had gathered to move from Schermerhorn Hall to the Horace Mann auditorium. In this larger hall the attendance steadily increased, so that at the last lecture there were many standing. A notably large number of members of different

faculties were present, as well as persons of distinction not connected with the University. During his stay in the city, Professor James was repeatedly entertained by members of the departments of psychology and philosophy as well as others, and on several evenings at the Faculty Club he discussed the topics of his lectures with members of these and other departments.

The subject, which the lecturer treated with the vitality and humor of style and aptness of illustration for which he is well known, was two-fold. It included the pragmatic method and also the theory of knowledge known as pragmatism or humanism. The pragmatic method is a manner of treating all conceptions and propositions. It regards their meaning as consisting solely in the *practical* difference they would make if true; that is the difference they would make in our actual living experience. Where we come to a dispute or conflict of ideas which involves no practical difference, we may ignore it, since pragmatically viewed the ideas are the same. Professor James applied this method to a variety of cases in daily life, scientific speculation and theological doctrine, pointing out what he deemed its fruitful simplification. Nowhere was the simplification more striking than in speculations on the existence and attributes of the Deity.

So far this was only a method of dealing with conceptions and reducing them to their humanly significant proportions. The larger and more far-reaching use of the word pragmatism implies a bold philosophical doctrine of truth. This doctrine seemed to be, strictly taken, an analysis of the nature of truth and of the nature of evidence or the tests of truth. According to it, all the tests of truth consist in determining whether the conceptions in question "work well," whether they ultimately conduce to sustain and promote the vitality of him who uses them. It was argued, again with rich variety of illustration and style, that ultimately we employ no other test of truth than this.

These essential theses of the lectures were accompanied by many important by-remarks. Pragmatism seemed identifiable with empiricism or the principle that no value is to be attached to ideas beyond what approves itself in experience. As this test is seldom a complete or absolute one, that is, since experience gives sometimes but a partial encouragement to ideas, pragmatism is a balanced, undogmatic, receptive, tentative frame of mind; openness tempered with skepticism. Throughout the course of lectures ran a humorous distinction between the "tender" and "tough" types of speculative mind. The tender

type is that which craves perfect satisfaction in its world for all the needs of intellect and conscience. Its world must be perfectly rational and perfectly righteous in the end. The tough mind on the other hand pays heed to the rugged facts, is content to jostle its way along and knows very well that certain parts of its nature, if they survive at all, must go begging. The extreme product of the tender type is rationalism and theistic idealism; the extreme product of the other is materialism. Professor James offered his own way of thinking as one that applied the best tendencies of both to a work-day world. His theory embodied the tough-minded temper in that it went by experience and consequences, but it encouraged many of the tender-minded speculations as hypotheses that might profitably be put in practice and lived by, because it was thus seen that they "worked well." The test of wearing well in life countenances some of the most cherished tender-minded speculations. Though these should never be dogmatically affirmed, they may be resolutely launched and justify themselves by the happy issue of the experiment. Thus while insisting on a method which looked like the scientific method of hypothesis and verification, the lecturer insisted on the application of this method to religious and other schemes not commonly classed as scientific.

* * *

At the annual meeting of the *New York Academy of Sciences* held on December 17, Dr. N. L. Britton, emeritus professor of botany, and director of the New York Botanical Garden, delivered the presidential

**Academy of Science
Election**

address. Among the officers chosen for 1907 are the following: President—Nathaniel L. Britton; vice-presidents—section of biology, Professor H. E. Crampton; section of geology and mineralogy, Professor Amadeus W. Grabau; section of astronomy, physics and chemistry, Charles C. Trowbridge; corresponding secretary—Professor Richard E. Dodge; editor—Professor Charles Lane Poor; member of finance committee—Professor Frederic S. Lee.

* * *

The one hundredth anniversary of the establishment of the College of Physicians and Surgeons will be celebrated at the coming P. & S. Anniversary commencement of the University in June. The following preliminary program, which is subject to change, is announced:

Monday, June 10, 9 p. m.—Smoker at Columbia University Club.

Tuesday, June 11, 2:30 p. m.—General convocation at the college; commemorative addresses; inspection of the buildings.

Tuesday, June 11, 7:30 p. m.—Dinner of Alumni Association.

Wednesday, June 12, 11 a. m.—Commencement of the University.

It is expected that there will be added to this program special clinical demonstrations and lectures, to be given in the various hospitals of the city, by officers of the college, on Monday afternoon and Tuesday morning. Special efforts will be made to interest the alumni in the celebration, and it is believed that it will attract a large number of graduates from far and near.

* * *

In the December, 1905, issue of the QUARTERLY an analysis of the occupancy of Hartley and Livingston Halls was given as of November 1 of that year. At that time 172 rooms in Hartley and 170 rooms in Livingston, making a total of 342 rooms, had been rented to 296 students. During the present academic year considerable progress has been made towards filling the halls completely, the statistics for March 1, 1907, showing that a total of 427 rooms in the two dormitories have been rented to 375 students, who are distributed by schools as follows:

| Faculty | Hartley | Livingston | Total |
|---|---------|------------|-------|
| Columbia College | 43 | 16 | 59 |
| Applied Science | 27 | 47 | 74 |
| Architecture | 4 | 16 | 20 |
| Law | 29 | 51 | 80 |
| Medicine | 8 | 7 | 15 |
| Pharmacy | 6 | 1 | 7 |
| Political Science, Philosophy and Pure Science | 30 | 30 | 60 |
| Teachers College | 22 | 16 | 38 |
| Officers | 9 | 13 | 22 |
| Total | 178 | 197 | 375 |

* * *

Twenty-eight new students were admitted to Columbia College in February, as against twenty-nine in February, 1906. Of these fourteen are non-matriculated students, nine have been admitted to the first-year class and five have entered on advanced standing.

UNIVERSITY LEGISLATION

THE TRUSTEES

December meeting.—The President announced the death from typhoid fever, on November 8, 1906, of Edmund Howd Miller, Ph.D., professor of analytical chemistry, who had been an officer of the University since his graduation from the School of Mines in 1881.

It was resolved that the President and Librarian be authorized to offer as a gift to the newer southern educational institutions of the higher rank such selections from the duplicate volumes now stored in the sub-basement as may be most suitable for the purposes of such institutions and are not otherwise useful to the University.

The thanks of the Trustees were tendered to Jacob H. Schiff for his generous offer of support for three years of a professorship of social legislation; to Horace W. Carpentier of the Class of 1848, for his gift of \$925.99 to meet an overdraft of the income of the Dean Lung fund; to Samuel P. Avery for a gift of \$50 for the purchase of books for the Avery Library; and to Professors Van Amringe, Pupin, Fiske, Cole, Maclay, Smith, D.E., Keyser, Mitchell, Kasner and Dr. Bussey for a subscription of \$75 in the name of Columbia University in support of the *Transactions of the American Mathematical Society*.

Professor William T. Brewster was assigned to a seat in the faculty of philosophy.

Samuel McCune Lindsay, Ph.D., was appointed professor of social legislation for three years from July 1, 1907, and assigned to a seat in the faculty of political science.

The following appointments (for the academic year 1906-1907) were confirmed: Chauncey C. Chapin, B.S., assistant in physics; Kaufman G. Falk, B.S., Ph.D., assistant in physical chemistry; John Norman Pring, M.S., assistant in electro-chemistry; Charles H. Jaeger, M.D., instructor and chief of clinic in orthopaedic surgery; Charles S. Fischer, M.D., assistant in medicine.

Frank R. Oastler, M. D., was promoted from instructor in gynecology to

clinical lecturer and instructor in gynecology.

The title of Lindsley R. Williams, M.D., was changed from chief of clinic to chief of clinic and instructor in medicine.

The following appointments were made under extension teaching for the academic year 1906-1907: F. E. Thompson, A.B., in education; James Sawyer, B.S., in structural design.

The following amendments to the statutes were adopted:

I. To amend section 40, so that it shall read as follows:

§ 40. The officers of administration, in addition to the President, are the deans of the several faculties, the consulting engineer, the superintendent of buildings and grounds, the secretary of the University, the bursar and assistant bursar, the registrar and assistant registrar, and the chief of the bureau of purchases and supplies.

II. To insert a new section numbered 46, reading as follows:

§ 46. The consulting engineer shall be appointed by the Trustees. He shall have charge, under the direction of the President, of the buildings of the University generally, of its grounds adjacent thereto, and of its movable property upon the same.

III. To renumber the section now numbered 46 by the new number 47, and to amend the same so that it shall read as follows:

§ 47. The superintendent of buildings and grounds shall be appointed by the Trustees. It shall be his duty, under the direction of the consulting engineer, to take immediate charge of the buildings and grounds of the University and of their furniture and fixtures, and to see that the same are kept in good and proper order and in sufficient repair; to employ, control and discharge all persons employed in and about said buildings and grounds for their care and protection, and all janitors, watchmen and other subordinates and servants, and to perform such other duties as may from time to time be designated by the President or consulting engineer.

IV. To renumber the sections now numbered 47, 48, 49, 50, 51, 52, 53, and 54 by the numbers 48, 49, 50, 51, 52, 53, 54 and 55.

January meeting.—The President announced the death from typhoid fever on December 11, 1906, of Fitzhugh Townsend, A.B., E.E., instructor in electrical engineering.

The following officers and members of committees were elected: Chairman, Mr. Rives; clerk, Mr. Pine; to succeed Mr. Brown on the committee on finance, Mr. Bangs; to succeed Mr. Sands on the committee on buildings and grounds, Mr. Pine; to succeed Mr. Mitchell on the committee on honors, Mr. Low; to succeed Mr. Bangs on the committee on education, Mr. Cutting; to succeed Mr. Low on the committee on the Library, Mr. DeWitt.

The President announced that the Reverend George Hodges, dean of the Episcopal Theological Seminary at Cambridge, Massachusetts, had accepted the invitation of the Trustees to preach the baccalaureate sermon, on June 12, 1907.

It was resolved that the thanks of the Trustees be tendered to Edward H. Wells, president of the Babcock & Wilcox Company, for his gift to the University, through the dean of the faculty of applied science, of a 195 horsepower wrought steel boiler having a commercial value of \$3,250, which has been installed as part of the new equipment in the main power plant.

The Committees on education, buildings and grounds and the library presented their annual reports on the budget, which were referred to the committee on finance.

Charles A. Beard, Ph.D., was appointed adjunct professor of politics for three years from July 1, 1907.

The following appointments were confirmed: Carlton Huntley Hayes, A.M., to be lecturer in history, from February 1, 1907, to June 30, 1907, *vice* Paul Haworth, Ph.D., resigned; Fred-eric Lyman Wells, Ph.D., to be lecturer in psychology, Barnard College, from January 1, 1907, to July 1, 1907, *vice* V. A. C. Henmon, Ph.D., resigned.

The following appointments under extension teaching were made for the academic year 1906-1907: Frank Houghton Sewall, A.B., C.E., survey-

ing; A. H. Beyer, concrete construction; A. M. Knowles, Mech.E., structural design.

The title of J. Edwin Sinclair, B.S., was changed from assistant in mineralogy to lecturer in chemistry.

February meeting.—It was resolved that the Trustees of Columbia College accept with profound gratitude the gift of St. Paul's Chapel, erected and presented to the University by Olivia Eggleston Phelps Stokes and Caroline Phelps Stokes, as a memorial of their parents, James Stokes and Caroline Phelps, his wife, for the uses and purposes expressed in the deed of gift, and that the Trustees convey to the donors their deep sense of appreciation of the foresight and liberality which have thus recognized the spiritual needs of the University (adopted January 7, 1907).

It was furthermore resolved, that the Trustees express their gratitude and sincere thanks to the donors of the Chapel for the further gift of the chancel windows, altar, pulpit and furniture (adopted January 7, 1907).

The thanks of the Trustees were also expressed to George Foster Peabody and Charles J. Peabody for their gift of the great organ (adopted January 7, 1907).

The Clerk reported that Hamilton Hall was formally opened on February 2, 1907, and that large meetings of the students and alumni were held, addresses being made by President Butler, Dean Van Amringe, '60, Julien T. Davies, '66, the president of the alumni association and John W. Brodix, president of the senior class. He reported also that St. Paul's Chapel was dedicated on the afternoon of Sunday, February 3, 1907. The sermon was preached by Rev. Dr. Stewardson, the following clergy officiating: Bishop Greer, Rev. Dr. Coe, Rev. Dr. Vincent and the Rev. Mr. Oldham.

The thanks of the Trustees were tendered to Rutherford Stuyvesant of the class of '63, for a gift of five hundred dollars to be credited to the Bruce Fund; to William G. Low, of the class of '65, for his gift of two hundred and fifty dollars, for the purchase of books on maritime and international law; to the anonymous donor of the sum of one hundred dollars, to be applied to the salaries in the department of phi-

losophy; to the anonymous donor of seven hundred dollars, received through the dean of the medical faculty, for the department of pathology; to Joseph P. Grace, of the class of '94, and to William Salomon & Co., through Clarence McKenzie Lewis, C.E., '98, for a contribution to a fund to enable the University to send a representative to the capitals of the leading countries of South America in the hope of aiding in the promotion of better and closer relations between the South American countries and the United States, and to Professor Henry Edward Crampton, of the class of '93, chief marshal, and to his assistant marshal and aids for the admirable effectiveness with which the arrangements for the dedication services of St. Paul's Chapel were planned and carried out.

The statutes were amended by the addition of a section establishing the Earle Prize in classics open to candidates for the degree of bachelor of arts in Columbia University, and by changing the title of the department of physiological chemistry to biological chemistry.

The President reported that the Prussian ministry of education had appointed Professor Felix Adler as Theodore Roosevelt professor in the University of Berlin for the year 1908-09, upon the nomination of the Trustees of Columbia College.

An appropriation of four thousand dollars from the accumulated income of the Phoenix fund was made for the purpose of establishing a research equipment for the department of zoology.

The following appointments were made: Harry Alonzo Cushing, LL.B., Ph.D., of the New York Bar, professor of law; Nathan Abbott, A.B., LL.B., now dean of the faculty of law of the Leland Stanford Junior University, professor of law; Professor Jeremiah W. Jenks, Cornell, and Samuel W. McCall, lecturers on the George Blumenthal foundation for the year 1907-08; Charles Arthur Stewart, A.B., assistant in mineralogy from January 1 to June 30, 1907, *vice* J. Edwin Sinclair, B.S., promoted; Ralph Curtis Ringwalt, A.B., LL.B., tutor in English from February 1 to June 30, 1907, *vice* John G. Bowman, resigned; Max Forrester Eastman, A.B., assistant in philosophy

from February 1 to June 30, 1907, *vice* Harold C. Brown, promoted; Edward Cussler, M.D., assistant in clinical pathology from January 1 to June 30, 1907, *vice* J. C. Greenway, M.D., resigned; J. Ramon del Rio, Mech.E., assistant in mechanical engineering from January 1 to June 30, 1907, *vice* R. M. Strong, resigned, and H. L. Hollingsworth, B.S., assistant in psychology from March 1 to June 30, 1907, *vice* F. L. Wells, promoted.

The following promotions were made: Dickinson Seargent Miller, Ph.D., lecturer in philosophy, to be professor of philosophy; C. O. Von Dannenberg, B.E., assistant in electrical engineering to be tutor in electrical engineering for the remainder of the academic year 1906-07, Harold Chapman Brown, Ph.D., assistant in philosophy to be tutor in philosophy in Barnard College from February 1 to June 30, 1907, *vice* Walter B. Pitkin, resigned.

The title of Gary N. Calkins was changed from professor of invertebrate zoology to professor of vertebrate zoology.

The following amendments to the statutes were adopted: chapter 4, section 30, of the Statutes was amended by striking out the words "physiological chemistry" and by inserting after the word "bacteriology" the word "biological chemistry."

A new section (372) was added to chapter 32, as follows:

§ 372. A prize to be known as the Earle Prize in Classics shall be awarded annually to that student who, being a candidate for the degree of bachelor of arts in Columbia University, shall be adjudged most worthy thereof, in accordance with regulations to be formulated from time to time by the division of classical philology; the amount of the prize to be the annual income of the gift to the University as a memorial of the late Professor Mortimer Lamson Earle.

UNIVERSITY COUNCIL

December meeting.—The subject "Comparative study of religion" was made a minor subject for the higher degrees under the faculty of philosophy. The date of Commencement was moved forward to the last Wednesday in May, to take effect in 1908.

TEACHERS COLLEGE

January meeting.—There were established new major subjects in nature-study and elementary agriculture; and in the supervision of domestic art and domestic science, of fine arts, and of physical education, with a requirement for admission, in addition to the usual academic prerequisites, of successful experience in teaching and familiarity with the subject taught in these fields. Twelve new courses of instruction were also established, as follows: Education 23-24, The psychology and education of exceptional children; 127-128, Sec-

ondary education in Germany; 163-164, Supervision and critic teaching in fine arts; 257-258, Practicum in domestic science; Biology 58, Applied bacteriology; Domestic Art 18, Household art; Domestic Science 15-16, Foods and dietaries, for students of hospital economics; 111-112, Metabolism and dietetics; Fine arts 17-18, Design; 19-20, Advanced design and interior decoration; Geography 52, Man and his environment; 53, Geography for primary grades; and Nature study 6, Nature study for primary grades.

STUDENT LIFE

The winter has been marked by unusually extensive student activity. **Junior Week**, instituted for the first time this year, has been a success from every point of view. It is estimated that the surplus will amount to about five hundred dollars, a sum more than sufficient to pay off the 1908 class crew debt. The "prom" has met with such general satisfaction that it is certain to become a permanent fixture in the calendar of undergraduate activities.

"The Ides of March," this year's **Varsity Show**, will be presented at the Waldorf-Astoria Hotel during the week of March 11. It has been decided by the Players to change from the Carnegie Lyceum, in order to carry out the plans for a more elaborate production. A chorus of over fifty has been picked, and costumes and scenery will receive more attention than in former years. Tickets for the show are being sold in advance at the University. E. Breitenfeld, 1909, is the author and composer of the "Ides of March," although several songs by other students have been introduced into the piece. Following is the cast of characters:

Caesar.....G. H. Reaney, 1907
Brutus.....R. J. Maplesden, 1908
Cassius.....J. L. Egan, 1907
Casca.....D. M. McArthur (sp.)
Trebonius.....C. de Garmendia, 1910
Cinna.....H. W. Henes, 1909 S.
Soothsayer.....W. E. Kelley, 1907
Mob.....R. G. Conried, 1907
Sophronia.....A. Gannon, 1910
Iris.....V. Murray, 1910

Genévieve.....R. G. Adler, 1910
Mollie.....A. T. Hopping, 1907
Cleopatra.....H. C. Atwater, 1907 S.
Flavius.....E. C. Thompson, 1909 S.

Determined efforts are being made to secure adequate and permanent quarters for **Kings Crown**. The prospects that rooms suitable for meetings will be obtained are brightened by the fact that the removal of several departments to Hamilton Hall has left vacant considerable space in other buildings on the campus. The Crown has held several successful meetings during the year and has inaugurated the custom of devoting each meeting, as far as possible, to some particular student activity, athletic or otherwise.

There are indications that **Spectator** will close the college year out of debt. Efforts are being made to obtain permanent quarters for the offices of the paper in Hamilton Hall, and it is probable that the section between the new hall and the dormitory adjoining will be used for this purpose. The **Monthly** has appeared as usual during the year and is up to former standards. The **Jester** has deteriorated in quality recently and a general reorganization of the paper is evidently needed. Residents of the Dormitories have undertaken to publish a weekly pamphlet, known as the **Dorms**, devoted to the interests of those who live in Hartley and Livingston Halls.

Classday officers for this year have been elected as follows: Valedictorian, W. G. Palmer; historian, S. L. Pierrepont; presentation orator, W. E.

Kelley; prophet, F. S. Hetherington; ivy orator, K. B. Collins; class poet, J. E. Schermerhorn.

The following **senior committees** have been appointed: Classday committee: Henry E. Chapin, John McV. Haight, Frank C. Hall, Allen T. Hopping, Robert C. Masterton, George Norris, James L. Parks, Harold Perrine, and John W. Brodix (ex-officio). Class Dinner committee: Edward T. Collins, Joseph L. Egan, William A. Flanagan, Percy A. Gordon, Wilham B. Keller, Dudley H. Walbridge, and John W. Brodix (ex-officio). Class Book committee: Herbert Forsch, Robert H. Haskell, Thomas E. Snyder, Charles B. Spencer, Albert T. Swords, and John W. Brodix (ex-officio). Cap and Gown committee: Richard G. Conried, Walter M. Schwarz, Harold E. Vehslage, and John W. Brodix (ex-officio).

Weekly **University Teas** were resumed during the months of January and February. They were held under the auspices of the ladies' advisory committee in Earl Hall, and proved most enjoyable affairs.

The **Philolexian** society has elected the following officers for the second half-year: President, A. T. Swords, 1907; vice-president, A. J. Kilmer, 1908; secretary, D. Armstrong, 1909; treasurer, V. K. W. Koo, 1909.

The following officers have been elected by the **Barnard Literary Asso-**

ciation: President, H. D. Egbert, 1907; vice-president, E. F. Griffin, 1908; secretary, W. B. Woodbury, 1908; treasurer, G. W. Jacques, 1908.

Columbia will compete in the annual triangular debate against Cornell and Pennsylvania on March 8. The team as selected is made up of H. Harper, 1907 L, I. M. Wormser, 1909 L, E. L. Podell, 1907 L, B. M. Kaye, 1907 L, W. B. Shelton, 1909 L, and C. D. Dorsey, 1907 L. The subject for debate will be, Resolved: That immigration be restricted by an educational test. Columbia will uphold the affirmative against Cornell in Mendelssohn Hall, and the negative against Pennsylvania at Philadelphia.

Two out-of-town performances of the **Soph Show** have been given this season, one at Lakewood, N. J., during the Christmas holidays, and the other at Yonkers on Monday, February 11, at the Park Hill Country Club. Each time the performance went off creditably, and was well received by a large audience. A tentative report of the show committee places the net receipts at approximately \$400.

Columbia won the intercollegiate **chess** tournament by defeating teams from Yale, Harvard and Princeton, and scoring the highest number of points in the history of the league. The team won eleven and one half games out of a possible twelve.

F. W.

ATHLETICS

The **basketball** season, which is drawing to a close, has aroused great interest on account of the strong competition between Yale and Columbia for first place in the league. During the early part of the season, almost all the league games were played on the home court, and, save for the one defeat at the hands of Yale, the Varsity showed a clean record of victories. The team travelled west in the Christmas holidays and played several strong western teams, winning three out of four games. Following is the result of college games played to date:

Columbia 2, Pratt 0 (forfeit).
Columbia 20, Princeton 14.

Columbia 30, Wisconsin 9.
Columbia 27, Cornell 13.
Columbia 18, Princeton 15.
Columbia 34, West Point 13.
Columbia 23, Cornell 16.
Columbia 9, Yale 11.
Columbia 18, Harvard 6.
Columbia 22, Pennsylvania 18.
Columbia 10, Yale 8.
Columbia 19, Harvard 10.

Columbia is now tied with Yale for first place in the intercollegiate series, and it may become necessary for these two teams to play an additional game or series of games to decide the championship. The only game left on the Columbia schedule is the one with

Pennsylvania at Philadelphia. The game with Yale at New York ended in a tie, but Yale succeeded in throwing the first goal in the extra period, thus winning the game by a score of 11 to 9.

The Hockey season closed with a long list of defeats for Columbia, although many of the games were won by a narrow margin. G. Mackenzie, 1908, has been elected captain of next year's team.

Crew practice was begun in the gymnasium immediately after the Christmas holidays. A fairly large squad reported to Coach Rice, who began at once to instruct the men in the fundamental points of his new stroke. Rice intends to put the crews on the water as soon as the weather permits, and has chosen the Harlem River as the most desirable place for outdoor work. One of the innovations in rowing affairs this spring will be the race scheduled with Harvard on May 11, at Cambridge. This will be the first time that Columbia and Harvard have met on the water for many years. On Saturday, May 4, the Varsity will race Annapolis, on the Severn.

The freshman crew this year is not up to former standards, and some dissatisfaction is felt over the small number of 1910 candidates. Several appeals for more freshman material have been made, but unless the response is forthcoming, the crew management threatens not to enter a freshman crew in the Poughkeepsie regatta.

By winning four out of seven bouts, the freshman class triumphed over the sophomores in the interclass *cane sprees*. The sophomores won the annual interclass basketball game by a score of 27 to 11.

Indoor track practice this winter has taken the form of weekly handicaps in the gymnasium for novices, and daily practice, under the direction of Coach Crooks, for the Varsity men. The annual indoor track carnival was held in Madison Square Garden on January 25. Twenty races and three field events composed the program, and over seven hundred athletes competed. The meet served to bring out much new and promising material for the spring season.

Early work in preparation for the coming baseball season has begun in the gymnasium. The probable schedule consists of twenty-four games, of which seven will be played at home. Several vacancies have been left in the nine as composed last year, and a good sized squad has come out to try for the positions. W. S. Gilbert, formerly of the New York National team, will act as chief coach this year. He will be assisted by several other well-known baseball men at odd times during the practice season.

Minor sports, such as swimming, wrestling, fencing and gymnastics have all arranged schedules for the season. An awakening of interest in wrestling is noticeable at the university, and Columbia is expected to figure favorably in the intercollegiate meet at Princeton on March 22. The formation of a swimming league, composed of Columbia, Yale, Pennsylvania, Brown and Princeton, has added much impetus to this branch of sport at the university. The swimming management has instituted a series of handicap events, which are held in the pool every two weeks. Members of the gym and fencing teams are hard at work preparing for their respective meets.

F. W.

THE ALUMNI

Alumni Bibliography

It has been suggested recently that the columns of the *QUARTERLY* devoted more particularly to the alumni should include a bibliography, or at least a list of the books written by graduates of the University not connected with its teaching staff or bearing directly upon educational matters. Such a suggestion meets with the warm approval of the editors, who will be most happy to record the literary activities of Columbia men either under their respective classes or in a special department. Accordingly they ask that the titles, dates and places of publication of any books or articles be sent to them, and if the books themselves are sent, they will be forwarded, after suitable notice, to the University Library. That there is a large amount of literary work done by Columbia men is quite well known, but this information is scattered so widely, that it rarely reaches a large number of the writer's college friends, who often would be glad to hear of his latest work. With the cooperation of the alumni, the editors of the *QUARTERLY* trust to make this an interesting feature of the alumni notes.

Columbia University Club

The annual meeting of the Columbia University Club was held at the club-house, 18 Gramercy Park, on December 19, 1906. The report of the board of governors which was submitted at that time, covered the first full year in the new house, and was received with considerable satisfaction, as it indicated a most successful condition of the club in its present quarters. This was shown by the fact that there was a surplus for the year of \$2,749.40, after meeting all charges and expenses. The club is being used by constantly increasing numbers of members and during the past year many committee meetings and class dinners have been held there. On December 1, 1906, there were 806 resident members and 149 non-residents, making a total of 955, as compared with 899 on December 1 of the previous year.

At the annual election the following officers and members of the board of governors were elected: President, John Howard Van Amringe, '60; vice-president, Alexander B. Simonds, '73; treasurer, John Sheafe Douglas, '90 S.; secretary, Gustavus T. Kirby, '98 L.; board of governors (term of office expires 1909), Richard A. Monks, '94 S., T. Ludlow Chrystie, '92, John T. Conover, '98 S., Harold H. Oddie, '99 S., and Robert S. Woodward, Jr., 1901 S.; committee on admissions (term of office expires 1907), James R. Knapp, 1900; (term of office expires 1909),

Joseph W. Cushman, '84, William T. Lawson, '82, Henry C. Pelton, '90 S., William B. Symmes, Jr., '98, and Frederick B. Irvine, 1902 S.

The new squash courts of the club were opened at the smoker held on the evening of January 23. These courts have been constructed in the stable at the rear of the club property and have already proved very popular with the members. There are two courts, one directly above the other, and they are lighted by electric lights, so that it is possible to play in the evenings. The lockers provided have all been taken and the game has aroused active interest among the members. A bridge whist tournament has been in progress during the winter and an increased attendance of members has been noted.

P. and S. Alumni Association

The association is planning to take an active part in the celebration next June of the one hundredth anniversary of the founding of the College of Physicians and Surgeons. This matter has been left to the executive committee with power.

The next annual meeting, that to be held in January, 1908, will be the fiftieth of the association. The manner in which this will be made memorable has not yet been determined.

The financial condition of the association is all that could be desired, and because of this and the need of help manifested by the library of the

department of pathology, one long unused five hundred dollar fellowship will probably be abolished and this year's appropriation of seven hundred dollars to defray the subscription expenses of that library, be made an annual appropriation.

Efforts of various kinds are being made to get more alumni to join the association. Among these the most important perhaps is the preparation of a history, in outline, of the aims and purposes of the association. This is being written by Dr. G. C. Freeborn, and will be printed and distributed to all the alumni.

Society of Architects

Among the University alumni organizations none is more active than the Society of Columbia University Architects, whose membership has reached nearly two hundred, thus including about forty-five per cent of the number of students who have been connected with the school of architecture. The society now publishes a small quarterly magazine called *The Bulletin*, in which it makes a special feature of advance information of public lectures and exhibitions of art subjects. The following are the officers of the society: President, D. Everett Waid, '93; first vice-president, J. Monroe Hewlett, '90; second vice-president, Henry Hornbostel, '92; secretary, Henry Snyder Kissam, '86; recorder, Will Walter Jackson, '92; treasurer, Goldwin Goldsmith, '96.

New Jersey Alumni Association

The annual meeting of the New Jersey Alumni Association was held at Newark on the evening of December 14 and proved most successful, representatives from the University being present and some excellent addresses being made. The association elected the following officers to serve for the following year: President, Ruford Franklin, '86 C.; vice-president, Dr. Schuyler Skaats Wheeler, '83 C.; secretary, Arthur F. Egner, 1903 C.; treasurer, George J. Bayles, '91 C.; on the standing committee, William O. Wiley, '82 C., the Rev. Claudius M. Roome, '80 C., William Fellowes Morgan, '80 C., and Charles M. Lum, '81

C., were selected to hold office for three years; A. Y. Meeker, 1900 C., for two years, and William A. Meikleham, '86 C., and Edwin G. Adams, '94 L., for one year.

At the conclusion of the dinner Charles M. Lum, the toastmaster, introduced the various speakers, who included Professor W. M. Sloane, Professor E. D. Perry, and secretary F. P. Keppel from the University, John R. Hardin, president of the New Jersey Association of Princeton alumni; Alden Freeman, N. Y. U.; James Heard, '81 C., headmaster of Summit Academy, and Robert Arrowsmith, '82 C.

Alumni Council

The visits to the various alumni associations in the west were again made this year by Professor Tombo, who served as the representative of the Alumni Council. The system of visitations was instituted by the council in 1904, the first representative being Dean Kirchwey. Dr. Canfield visited the associations in 1905 and Professor Tombo in 1906. Between January, 1906, and January, 1907, no less than ten new associations were established, with the following cities as headquarters: Indianapolis, Cleveland, Pittsburgh, Louisville, Madison (Wisconsin), Columbia (Missouri), Richmond (Virginia), Durham (North Carolina), Detroit, and Minneapolis—St. Paul. A brief account of the different meetings attended by the representative of the Alumni Council follows:

Detroit.—On the evening of January 8, a Columbia University Alumni Association, with headquarters at Detroit, was organized at the University Club of that city. The meeting was in charge of Dexter M. Ferry, Jr., '98, and Homer Johnson, 1902. Thirty-seven replies were received from twenty-one different towns of the State. A permanent organization was effected and the following officers were elected for 1907:—President, Dr. E. Taylor Tappey, '79M., secretary-treasurer, Dr. Theodore A. McGraw, Jr., 1902M. Before the business meeting Professor Tombo delivered an illustrated lecture on the recent growth of the University. In addition to those mentioned

above, there were present Dr. Willis S. Anderson, '91M, Dr. Howard W. Longyear, '75M, and Alexander Maccomb Stanton, '56, who graduated from the first site, of Detroit, Dr. C. Bell Burr, '78M, of Flint, Charles Grawn, 1904 (T.C.), of Mt. Pleasant, Dr. S. Kempton Smith, '90M, of Port Huron and H. C. Lott, 1906 (T.C.), of Ypsilanti.

Chicago.—The Illinois Alumni Association tendered a luncheon to Professor Tombo at the University Club, Chicago, on January 9. On that occasion plans were discussed for the entertainment of President Butler, who is to be the guest of the association on April 1.

Milwaukee.—On the evening of January 10 the annual dinner of the Wisconsin Alumni Association was held at the Hotel Plankinton, Milwaukee. The guests of the association were Judge Warren D. Tarrant, University of Wisconsin, '90, General Charles King, '65C, '66 U.S.M.A., a grandson of President King of Columbia College, and Channing Ellery, '77C. Dr. Louis G. Nolte, '86M, president of the association, acted as toastmaster. Professor Tombo gave an illustrated report of the recent activity of the University, and speeches were made by the three guests. General King's reminiscences of the Commencement of 1861 were particularly interesting; he entered the College in 1860, but did not graduate with his class, as he went to the front the following year. The election of officers for the year 1907 resulted as follows: President, Arthur C. Klettsch, '93C, '96L; vice-president Dr. A. W. Gray, '99M; secretary, Charles S. Carter, '79L; treasurer, J. E. Friend, '78L. In addition to those mentioned above, there were also present Cornelius I. Haring, '83L, Dr. Leopold Schiller, '82M, Dr. Frank C. Studley, '93M, H. W. Bueming, '95 (Arch.), and Wm. L. Nolte, as well as a professional male quartette.—On the morning of January 10 Professor Tombo spoke at the East Division High School, and on the afternoon of the same day at the West Division High School.

Madison, Wisc.—On the afternoon of January 11 Dr. Tombo lectured, in German, before the Germanic Society of the University of Wisconsin, and in

the evening, in English, before a general audience composed of students of the University and residents of Madison. The annual meeting of the Madison Alumni Association took the form of a smoker held at the home of Mr. U. B. Phillips, Ph.D. 1902, after the evening lecture. There are about twenty-five Columbia men in Madison, most of whom are on the teaching-staff of the University. The meeting was a most enthusiastic one, practically every Columbia man in the city being present. The officers of the association hold over for another year. Dr. J. L. Kind, Ph.D. 1906, is president.

Minneapolis.—The Columbia University Alumni Association of Minnesota was organized in Minneapolis on the evening of January 12. Meetings are to be held alternately in Minneapolis and St. Paul, and the following officers were chosen to serve for 1907: President, Judge David F. Simpson, '84L, vice-president, Dr. Cornelius Williams, '74M, and secretary-treasurer, Professor W. A. Schaper, Ph. D. 1901, of the University of Minnesota. In addition there were present at the meeting Michael Doran, Jr., '98L, C. N. Dohs, '94L, Louis Phillips, 1902, J. B. Miner, Ph.D. 1903, Dr. John J. Rogers, 1901M, George L. Nevius, '79L, Norton M. Cross, '89L, Norman Wilde, '89, Dr. H. M. Brecken, '77M, Dr. D. O. Thomas, '91M, Dr. J. G. Millsbaugh, '77M, Dr. C. H. Hunter, '78M, Dr. A. J. Murdock, '70M, James Gerould, Librarian of the University of Minnesota, Dr. J. Clark Stewart, '84M, Dr. S. H. Van Cleave, '80M, Dr. H. B. Sweetser, '85M, Dr. Thomas F. Quinby, '78M, J. A. A. Burnquist, A. M. 1904, ex-1905L, F. W. Collins, 1905S, A. S. Malcomson, 1905S and Professor G. N. Bauer, Ph. D. 1900. Professor Tombo gave a lantern exhibit after the dinner, illustrating the recent growth of the University. Before the meeting he addressed the Faculty Club and Regents of the University of Minnesota on "Some problems of higher education."

Lincoln, Nebr.—The annual meeting of the Nebraska Alumni Association was held on January 14 at Lincoln, it having been decided to hold the meetings of this organization alternately at Omaha and Lincoln. The University is represented on the faculty of the

State University, of which Dr. Canfield was at one time chancellor, by G. W. A. Luckey, Ph.D. 1901, Alvin S. Johnson, Ph.D. 1903, C. M. Heck, A.M. 1901, and W. C. Webster, Ph.D. '97. Among those who met the representative of the Council were Dr. William Green, P. & S. '54, and Victor Rosewater, '91 Pol. Sc., Ph.D. '93, of the *Omaha Bee*.—On the morning of the fourteenth, Professor Tombo delivered an address at the "Convocation," in the afternoon he lectured on Hauptmann's *Sunken Bell*, and in the evening on Goethe's *Faust*, at the University of Nebraska.

Colorado Springs.—On the morning of the sixteenth Dr. Tombo addressed the officers and students of Colorado College at chapel. On the faculty of the College the University is represented by William Strieby, '78S, H. A. Ruger, Phil., George I. Finlay Ph.D. 1903, T. T. Read, 1902S, George J. Lyon, 1904S, and Dean E. S. Parsons, Pol.Sc.—A dinner by the Columbia men was given to Dr. Tombo at The Antlers, on the evening of January 16, the reunion being in charge of C. C. Spicer, 1902C, 1904L, Dr. D. J. Scully, '99M, and Dr. P. M. Lennox, 1903M. Present at the gathering were C. C. Spicer, Dr. P. M. Lennox, J. P. Jackson, A.M. 1900 (of Colorado City), E. R. Bossange, 1893S, H. F. Lunt, 1902S, H. Alexander Smith, 1904L, G. I. Finlay, Ph.D. 1903, A. T. Child, A.M. 1900 (of Pueblo), H. A. Ruger, Phil., Judge S. H. Kingsley, '86L, and Dr. P. F. Gildea, '89M.

Denver.—The twelfth annual banquet of the Columbia Alumni Association in Colorado was held at the University Club, Denver, on the evening of January 19, 1907. At the business meeting which preceded the dinner, Dr. H. F. McNaught, '78M, was chosen president, Charles Clyde Spicer, 1902C, 1904L, (of Colorado Springs), vice-president, and Raymond J. McPhee, 1905L, secretary-treasurer. The guest of the association was C. R. Dudley, Yale '77, sometime regent of the State University. The meeting was attended by Henry Van Kleeck, '76L, Franklin B. Bernard, '76L, Richard A. Parker, '87S, T. B. Stearns, '81S, Edward N. Van Cortland, '85S, Judge Carlton M. Bliss, '88L, William L. Dayton, '89L, Dr. Charles A. Powers, '83M, W. S.

Ward, James D. Benedict, '99L, Raymond J. McPhee, 1905L, William V. Hodges, '99L, all of Denver, Judge Charles E. Southard, 1901L, of Greeley, J. Barent Johnson, 1900C, of Littleton, Francis E. Bouck, '95 Pol.Sc., '97L, of Leadville, Charles Clyde Spicer, 1902C, 1904L, of Colorado Springs, and Dr. Tombo. James D. Benedict, the retiring president of the association, served as toastmaster.

Kansas City.—The Kansas City Alumni Association of Columbia University held its third annual dinner at the University Club on the evening of January 21, 1907. John C. Meredith, '86L, the retiring secretary of the association presided over the dinner as well as the business meeting. At the latter the following officers were elected for the ensuing year: President, the Rt. Rev. Edward R. Atwill, '62; vice-presidents, Judge Henry L. McCune, '86L, Dr. G. E. Bellows, '85M, and Dr. Luther A. Todd, 1900M (of St. Joseph); secretary, Lester W. Hall, 1901L, and treasurer, David M. Proctor, 1905L. Bishop Atwill was unfortunately prevented by a delayed train from attending the reunion, but the attendance showed a gratifying increase over the last two years. The alumni present were Rev. E. B. Woodruff, '96, A. A. Buxton, '82L, C. H. Nearing, '82L, John C. Meredith, '86L, Judge H. L. McCune, '86L, James H. Cravens, A.M. '90, Frank G. Crowell, '91L, George P. Norton, '94L, Lester W. Hall, 1901L, David M. Proctor, 1905L, J. H. Thompson, '77M, J. V. Simpson, '82M, G. E. Bellows, '85M, Edward G. Blair, '89M, G. H. Mallett, M. L. A. Todd, 1900M, and F. H. Weiss, 1901M. Professor Tombo gave an illustrated talk on the University, and speeches were made by J. H. Thompson and D. M. Proctor, respectively the oldest and youngest alumnus present, L. A. Todd, who responded for the St. Joseph (Mo.) graduates, Judge H. L. McCune, and the Rev. E. B. Woodruff.

Columbia, Mo.—On the evening of January 22 Dr. Tombo was entertained by the Columbia Alumni Association of Central Missouri, which was organized on March 20, 1906, by the Columbia men on the teaching staff of the University of Missouri. Before the meeting, which took the form of

a smoker at the home of Dean Hill of the Teachers College, Professor Tombo delivered a lecture under the auspices of the German Club of the University on Hauptmann's *Sunken Bell*. Since the last report a number of changes have taken place in the membership of this association. W. W. Cook '94, Ph.D. 1901, has gone to the University of Wisconsin, James T. Gerould is librarian of the University of Minnesota, and Albert S. Reed (Ph.) is taking graduate work at Harvard.

St. Louis.—The annual dinner of the Columbia Alumni Association of St. Louis was held at the St. Louis Club on the evening of January 23. At the business meeting the officers of the association, consisting of Julius S. Walsh, '64L, president; Rev. Leon Harrison, '66, vice-president; and Dr. G. M. Tuttle, '88, '91M, secretary-treasurer, were unanimously reelected, as was the entertainment committee, made up of Arthur Thacher, '77S, Dr. G. M. Tuttle, and Dr. H. W. Loeb, '88M. Mr. Thacher and Dr. Tuttle were appointed a committee to consider ways and means for the establishment of a more permanent organization. The following alumni were present at the dinner: Bishop Daniel S. Tuttle, '57, Julius S. Walsh '64L, Dr. H. N. Spencer, '69M, Dr. John O. F. Delaney, '67M, Robert M. Tunkhouser, Spencer C. Graves, '84M, O. U. von Schrader, '82L, Dr. John A. Calnane, '94M, Dr. G. M. Tuttle, '88, '91M, Samuel R. Fowler, 1902M, Dr. Hanau W. Loeb, '88M, Wilbur T. Trueblood, 1900 (Arch.), Gustavus Sessinghaus, '98S, Lawrence Ewald, '96 (Arch.), and D. M. G. Seelig, 1900M. Addresses were made by Bishop Tuttle, Dr. Tuttle, and Professor Tombo.

Champaign, Ill.—On the evening of January 24 the Columbia men on the faculty of the University of Illinois tendered a dinner to Professor Tombo at the Hotel Beardsley, Champaign, which was followed by a smoker at the home of Professor Dexter. Columbia is represented on the faculty of the State University by Daniel K. Dodge, '84, H. A. Gleason, Ph.D. 1900, Guy Stanton Ford, Ph.D. 1903, Edwin G. Dexter, Ph.D. '99, James W. Gardner, Ph.D. 1902, and Harry G. Paul

(Phil.). Benjamin F. Harris, '92L, of Champaign, also attended the meeting.

Indianapolis.—The second annual meeting of the Columbia University Club of Indiana was held at the University Club, Indianapolis, on the evening of January 26. Russell T. Byers, the retiring president of the association, acted as master of ceremonies, and speeches were made by H. B. Wilson, superintendent of schools of Franklin, Ind., Calvin N. Kendall, superintendent of schools of Indianapolis, Oscar Lewis Pond, 1902L., Fred Charles of the University of London, and Professor Tombo. At the conclusion of the toasts, the following officers were elected for the ensuing year: President, Oscar L. Pond; first vice-president, Franklin S. Hoyt; second vice-president, Dr. L. N. Chase; third vice-president, Dr. M. Thorner; secretary, Louis A. Bacon, and treasurer, Dr. Daniel W. Layman. A handsomely framed photograph of the Library was presented to the University Club early in the evening. Among the alumni and guests present were Edward Daniels (L), Dr. M. Thorner, '98M, F. S. Ruddell, '99 (Pol. Sc.), Dr. D. W. Layman, '98M, Russell T. Byers, 1901L, Alvah J. Rucker, 1904L, R. J. Roberts, 1906L, Henry R. Faunce, 1902 (T. C.), Louis A. Bacon, 1900 (T. C.), Theophilus J. Moll, '98 (Pol. Sc.), Oscar L. Pond, 1902L, Louis N. Chase, '95, Ph.D. 1903 (of Bloomington, Ind), H. L. Smith, 1905S, H. B. Wilson, 1906S.S. (of Franklin, Ind.), Franklin S. Hoyt, A.M. 1905, Calvin N. Kendall, professor of education in the summer session of 1904, Fred Charles, University of London, George E. Hume, Harvard, Romney L. Wilson, Indiana, and C. B. Lester, Brown.

Louisville.—On January 28 Dr. Tombo was entertained by George G. Briggs, '88L, president of the Kentucky Alumni Association, and met several of the graduates, although no formal meeting of the association was held. Last year's officers hold over for 1907, with the exception of Carl Tombo, 1902S (vice-president), who has left the city. In the afternoon Professor Tombo lectured before the Woman's Club in their club-house.

Buffalo.—The tenth annual meeting

of the Columbia Alumni Association of Western New York was held at the University Club, Buffalo, N. Y., on the evening of January 30. It was a most successful meeting from every standpoint. Joseph Bondy of Syracuse, the retiring president, served as toastmaster, and addresses were made by George Cary, George W. Whittemore, and Charles C. Farnham. The dinner was followed by a business meeting at which the following officers were elected for the ensuing year: President, Right Reverend William D. Walker, Bishop of Western New York; vice-president, Dr. Frank H. Stephenson; secretary-treasurer, Charles C. Farnham. In the course of the evening the representative of the Alumni Council delivered an illustrated talk on the recent progress of the University. Among those present were Joseph Bondy, '84L, Charles C. Farnham, '89L, William A. Douglas, '88L, George W. Wittemore, '90, W. C. Gouinlock, '63M, Urbane A. Noble, 1904M, John A. Hastie, 1904M, A.M. 1904, P. H. Hayes, 1905M, N. K. Cone, 1904L (Batavia), E. Lyman Tilden, 1902L, P. R. Welch, 1905L (Westfield), George Cary, '85 (Arch.), Lee H. Smith, '81M, Frederic Ullman, 86L, Edward G. Aldrich, '95M, S. Jay Ohart, '79, G. B. Waterhouse, Ph.D. 1907, Glenn H. Pickard, 1904S, T. F. Hildreth, 1901S, L. H. Wheeler, '97M, James A. Gardner, '95M, J. Nelson Frierson, '99L, J. B. Whitney, A.M. 1905, Prescott Le Breton, '94, '96M, W. M. Farnham.

Washington, D. C.

The fifth annual gathering of the Alumni Association of Columbia University in the District of Columbia was held on the evening of February 2, 1907, at the residence of the president, Dr. W. Duncan McKim, 1701 Eighteenth Street. At the business meeting, which preceded the dinner, the following officers were elected: President, Dr. W. Duncan McKim, '75, '78M; vice-presidents, Dr. W. R. Hillier, '61, for Columbia College, R. F. Shepard, '70, 76L, for the School of Law, R. S. Woodward, Hon. 1905 for the Schools of Science, Dr. L. W. Glazebrook, '90M, for the School of Medicine; secretary, G. O. Totten, Jr.,

'81 (Arch.), A.M. '92; treasurer, Dr. Marcus Benjamin, '78S. The guests of the association were Professors Brander Matthews and Munroe Smith of Columbia, and Professor William Z. Ripley, Ph.D. '93, representing Harvard and the Massachusetts Institute of Technology. Addresses were made by the guests as well as by the Right Reverend H. Y. Satterlee, '63, Bishop of Washington, President R. S. Woodward of the Carnegie Institution, Dr. Thomas E. Satterwaite, '67M, and Dr. W. Duncan McKim. In addition to the persons mentioned above, there were present Nicholas Luquer, '58, S. S. Laws, '70L, Max West, A.M. '92, Ph.D. '93, Francis Walker, A.M. '93, Ph.D. '95, Thomas S. Lee, '94M, W. P. Jones, '98S, and Alpheus Winter, A.M. 1900.

President Butler's Western Trip

The annual meeting of the Alumni Association of Illinois is to be held in the City of Chicago on the evening of April 1, and will assume the form of a dinner at which President Butler will be the guest of honor. The President will also attend the annual dinner of the California Alumni Association in San Francisco on March 21, and arrangements are under way for a luncheon to be tendered him by the alumni of Southern California on March 13 in the city of Los Angeles. All alumni residing in the vicinity of these cities who have not been notified of the meetings are requested to communicate with Mr. John B. Pine, 63 Wall Street, New York, chairman of alumni organizations.

1870.—The Association for International Conciliation, having its headquarters in Paris, has voted to award medals of honor to Seth Low, member of the American delegation to the first Hague conference, and President Butler, '82C.

1875M.—The board of trustees of the Carnegie Institution of Washington recently filled a vacancy in the board by the election of Dr. William H. Welch, of Johns Hopkins University.

1877.—John B. Pine has been appointed a member of the municipal art commission of New York City by Mayor McClellan.

1879.—The class of 1879, Columbia College, held a reunion dinner at the Faculty Club on the evening of February 2, after the dedication of Hamilton Hall. There were present Osborne, Paine, Barnum, Hallock, Lynch, Mulcahey and Joseph.—Professor William Hallock, dean of the faculty of pure science, celebrated the twenty-fifth anniversary of his degree of Ph.D. from the University of Würzburg on the evening of December 15. A dinner was given in Professor Hallock's honor at the Chemists Club by his many friends, and the occasion was eminently successful. The subscribers, who numbered ninety-eight, included not only Professor Hallock's friends in the University, but members of the Chemists Club, the *Verein aller Deutscher Studenten*, the Fresh Air Club, and numerous other organizations which include Professor Hallock in their membership. Addresses were made by Professor J. F. Kemp, President Toch of the Chemists Club, Dr. Carl Beck, Dr. Rudolf Tombo, Sr., Controller Metz, Harrington Putnam, and other representatives of the different societies.

1881L.—Edward W. Sheldon, who has gained distinction at the New York Bar and is now president of the United States Trust Company, was elected to the board of trustees of Princeton University to fill the vacancy in the life membership caused by the recent death of the Rev. Dr. J. Addison Henry.

1886.—Milton Haight Turk has been selected as dean of the new William Smith College for Women, which is to be founded at Hobart College, Geneva, N. Y., through the gift of an endowment of about \$350,000.

1890.—Herbert Shipman, formerly chaplain at West Point, and since assistant rector of the Church of the Heavenly Rest, has been made rector succeeding the Rev. D. Parker Morgan. He has also been appointed chaplain of Squadron A, N. G. N. Y.

1893.—The annual winter reunion of the class of '93, College, was held at the Columbia University Club on the evening of December 8, when fourteen members of the class dined together. Since its decennial year this

class has held annually two dinners, one in December and the other on Commencement evening.—Shortly after this celebration the class was shocked to hear of the death of Fitzhugh Townsend, of the department of electrical engineering. Mr. Townsend died in the New York Hospital after a short illness.—The Rev. Herbert Müller Hopkins, who was professor of Latin at Trinity College, is now rector of an Episcopal church in the Bronx, where he has already constructed a new parish house.—The class will celebrate the fourteenth anniversary of its graduation with the usual dinner at the University on the evening of Commencement Day.

1893M.—Dr. W. S. Bainbridge recently returned from the first international congress on cancer, held at Heidelberg in the fall of 1906. He was elected honorary secretary of the congress.

1894.—G. Reese Satterlee, M.D. '97, who is now instructor in histology and embryology in the University and Bellevue Medical College, New York City, has just published a medical students' handbook of embryology, entitled, "Outlines of human embryology" (John Wiley & Sons, 1906).—H. S. Krans, who was for some time on the editorial staff of *Munsey's*, is now literary adviser in G. P. Putnam & Sons.

1895.—Lewis N. Chase, Ph.D. 1903, instructor in English at Indiana University, was married to Mrs. Pearl Powell Mikesell on December 26, 1906, in New York City.

1896.—John Duer Irving, Ph.D. '99, formerly professor of geology at Lehigh University, has been appointed to the newly established chair of economic geology at Yale.

1898.—The decennial committee, consisting of Messrs. Conover, chairman, Lewis, Ware, Lowther, Keppel, Symmes, Westerfield, and Depew, has held several meetings preparatory to organizing for the celebration next year.—Lewis Einstein is the editor of the *Humanists' Library* now being published by the Merrymount Press of Boston. In this series he has himself edited Leonardo da Vinci's "Thoughts on art and life," translated by Maurice

Baring, while soon to follow are Albrecht Dürer's "Journeys to Venice and to the Low Countries," translated by R. Tombo, Jr., A.M. '98, and "Chivalric ideals and Renaissance books of love," by J. E. Spingarn, '95, Ph.D. '99.—M. K. Averill has formed a law partnership with Herbert C. Brinckerhoff, 1903, under the firm name of Averill & Brinckerhoff, with offices at 60 Wall Street, New York City.

1899.—The annual reunion of the class of '99, College and schools of applied science, was held at the Columbia University Club on January 11, 1907. The reunion committee consisted of the following: from the College, Fowler, Van Name, Ehret, Giffin, and Cardozo; from the schools of applied science, Carpenter, Chapman, Oddie, Satterlee, and Bigelow. Owing to the unfortunate circumstances which forced the committee at the last moment to abandon the *Arena*, which had suddenly shut its doors, several members of the class were prevented from attending. There was a good sized gathering present, nevertheless, among whom were Pell, Seward, Lichtenstein, Giffin, Fowler, Matthew, Tuttle, Hinck, Cardozo, Staunton, Carpenter, Chapman, Vom Baur, Oddie, Heidelberg, Smith, Brewster-Greene, Entz, Fisher, Fliess, Godwin, Hudson, Imlach, McIntyre, Morrill, Riter, Simonson, Stevens, Weeks, Weinstein, Blondell, and Bell.

A standing committee of the class of '99, College and schools of applied science, was created, which body was vested with authority to manage the affairs of the class and given power to act and represent the class in various class matters. Three members from each of the class organizations, exclusive of the presidents and secretaries, who were made permanent members of the committee during their terms of office, were chosen. Of the six members, two each are to serve for one, two and three years, respectively. Pell, Giffin and Hackett were elected to represent the College besides the officers, Cardozo and Fowler; while Oddie, who was elected president of science, and Chapman, who was re-elected secretary, and Carpenter, Vom Baur and Godwin were appointed as the representatives of the schools of applied science.

A resolution petitioning the University authorities to permit the restoration of football was unanimously adopted and signed by every member present.

The old songs were given with the usual '99 vigor and harmony, and the spirit of good fellowship abounded.

Montgomery Schuyler, Jr., A.M. 1900, has been appointed secretary of legation at St. Petersburg. Mr. Schuyler has been in the diplomatic service for several years, having held a junior position previously at St. Petersburg. Since then he has been at Bangkok and Bucharest.

1900.—Simeon Strunsky, who since his graduation has devoted himself to European history and has been an editor of the *New International Encyclopedia*, is now connected with the *Evening Post* as editorial writer.

1900L.—George W. Morgan on November 30 resigned the office of superintendent of elections, which he had held from 1903 to 1906.

1901.—J. Boyce Smith, Jr., LL.B. 1904, and Pliny W. Williamson, LL.B. 1904, have formed a partnership for the general practice of law, under the firm name of Williamson & Smith, with offices at 32 Liberty Street, New York City.

1902.—The annual midwinter reunion of the class of 1902, College and Science, was held at Reisenweber's on the evening of December 29. This was the first combined gathering of the kind since Sophomore year, and was voted a distinct success. Speeches were made by Philip Schlosser, president of the Science men, George H. Danton and David Smythe. Allan B. A. Bradley officiated as toastmaster. The following men attended from the College: G. C. Atkins, J. N. Atkins, Bradley, Bullard, Carey, Danton, Fitch, Glenney, Halstead, Harper, Holland, Hopkins, Hutton, Jackson, Kelly, Lawrence, LeFevre, Lieb, MacIntyre, McClure, Mahan, Marsching, Peel, Prince, Spencer and Stratford. As this was the first gathering of the class since the sad death of William Brock Shoemaker, the following resolutions were adopted:

Whereas, God in His inscrutable Providence has seen fit to remove from

our midst our classmate and friend, William Brock Shoemaker, therefore be it

Resolved, That in the death of William Brock Shoemaker, we, the class of 1902, College, of Columbia University, have suffered an irreparable loss. In paying tribute to his memory we recognize the great service he rendered our class and the University. His standard was always of the highest, commanding the respect and admiration of the faculty and students. And be it further

Resolved, That we extend our heartfelt sympathy to the family in their great sorrow, and send a copy of these resolutions as a memorial.

The next reunion of the class will be held, as usual, at the University on commencement day. The best room in University Hall has already been engaged for the occasion. As this will be our quintennial, the election of officers for the ensuing five years will take place at the dinner, and every member who can possibly arrange to be present should positively reserve this date.

"The soul's progress and other poems" was published in December, 1906, by the John Lane Company, for Louis V. Ledoux, whose "Songs from the silent land" were published a few years ago.—Edward Larocque Tinker has received an appointment as deputy assistant district attorney in the County of New York.—Warner F. Gookin, who since his graduation has been a student at the Episcopal Theological School at Cambridge, is now a fellow of that institution and is studying at Marburg. An interesting fact is that at the Cambridge school the Columbia students in point of numbers are second only to the Harvard men.—A wedding of interest to the class was that of Allan B. A. Bradley to Miss Elsie Lloyd Totten, 1902 Barnard, on January 22, at the West End Collegiate Church.—Among the engagements recently announced are those of Stratford, Weekes, Lieb and Lawson.—Homer S. Johnson is secretary of the Penberthy Injector Co., of Detroit.—St. John is striking out for himself in law.

1903.—R. H. Waddell has entered the office of Messrs. A. W. McLaughlin & Co., mortgage brokers, 128 Broadway, New York.—Frederick S. McLintock has given up his position with Longmans, Green & Co., and is now in partnership with his two cousins in the brokerage business. His new address is 60 Wall Street, New York.

1904.—Donald Clifford Brace was married to Miss Ida Belle Pollock, daughter of Mrs. John J. Pollock, on December 27, 1906, in New York City.

Ph.D. Notes

1901.—Professor G. W. A. Luckey, of the department of education of the University of Nebraska, has been given a leave of absence for the present semester to allow him to go abroad to study secondary education in European countries.

1903.—Professor Richard Swann Lull of Yale University has prepared a collection of fossils showing the evolution of the horse. The collection has been placed on exhibition at the Peabody Museum, and will be the subject of an explanatory pamphlet. The next objects of restoration will be mastodons and mammoths.

1905.—Frank E. Hinckley has been appointed clerk of the newly established United States consular court at Shanghai. Dr. Hinckley's major subject at Columbia was international law.

1904.—William Ellery Leonard, instructor in English at the University of Wisconsin, has issued a little volume, entitled "Sonnets and poems." The book is "sold by the author," and does not bear the imprint of any publishing house. The "Dedication" and two of the most representative poems are quoted in *Current Literature* for February (p. 223).

1906.—Nelson Prentiss Mead has reviewed Tremain's "Two days of war" and "Last hours of Sheridan's cavalry" for the December, 1906, issue of *The City College Quarterly*, of which he is an associate editor.

NECROLOGY

John Cropper, A.B. '70, LL.B. '72, president of the Alumni Association of Columbia University in the District of Columbia, died suddenly at his home in Washington, December 7, 1906, aged fifty-six years.

Mr. Cropper was born in New York City on May 22, 1850, and entering Columbia at the age of sixteen, graduated with the class of 1870. Among his class-mates were Dr. Felix Adler, Edmond Kelley, Seth Low, and Dr. George L. Peabody, prominent physician and trustee. Choosing law for his profession, he graduated two years later with the degree of LL.B., and among his class-mates was Francis E. Leupp, a vice-president of the District of Columbia Alumni Association. In 1873 his *alma mater* conferred upon him the degree of master of arts.

For a time he practiced his profession in New York, but subsequent to his marriage he spent many pleasant years in foreign travel, gratifying his fondness for history and for art. In 1888 he settled in Washington and there remained until his death, with the exception of occasional trips abroad.

When it was proposed five years ago to gather the sons of Columbia in Washington into a formal organization, he heartily encouraged the plan and proudly accepted the presidency of the association. With skill and tact he led the association through the trying beginnings of organization and by his own enthusiasm strove ever to encourage its members to stand together in memory of the happy days at Columbia. His charming home was at the disposal of the association, and there the members gathered frequently to accept his gracious hospitality.

Mr. Cropper's grandfather, General John Cropper, of Virginia, followed Washington during the years of the War of the Revolution and from him he inherited the eagle of the Society of the Cincinnati, in which organization he was for a time president of the Virginia Society, and later assistant secretary-general. He was also a member of the Society of Colonial Wars in the State of Connecticut on right of descent from Governor John Webster. The memory of Elisha Mix, his maternal grandfather, he sought to perpetuate by his membership in the Military Society of the War of 1812 in New York City.

Samuel George Fitzhugh Townsend, A.B. '93, E.E. '96, instructor in electrical engineering, died of typhoid fever on December 11, 1906, at the age of thirty-four years.

Mr. Townsend had been connected with the electrical engineering department as assistant, tutor and instructor since 1897, having been engaged in practical work for one year after graduation. He also spent several summer vacations at the works of the General Electric and Westinghouse Companies, and has practiced as consulting engineer and expert in electrical work. For the past four years, he has been particularly interested in the development of a new railway signalling system, involving many ingenious features devised and perfected by him. This system has been successfully introduced and is now being applied on several large railroads.

Mr. Townsend was joint author with Professor George F. Sever of a work on "Laboratory and factory tests in electrical engineering."

He held for a number of years the amateur fencing championship of the United States. He was a member of the Union Club, and an associate member of the American Institute of Electrical Engineers.

BERRIAN, Apollo F., a member of the class of 1865 College, died on December 10, 1906, aged sixty-three years. He was a member of the Delta Kappa Epsilon fraternity.

CARTIER, Lucien, 1910 Science, died suddenly at his home, 48 West 84th Street, on February 27, 1907.

DE WITT, Rev. John, Litt.D. 1887, A.B. Rutgers 1838 and D.D. 1860,



JOHN CROPPER
CLASS OF 1870



LL.D. Lafayette 1882, died in November, 1906, aged eighty-five years. He was a former professor of Greek and Hebrew in the Theological Seminary at New Brunswick, N. J., and was the author of several religious works.

ERDAL, Oscar Wilson, E. M. 1904, died of injuries received in the Treadwell gold mine, of which he was superintendent, at Juneau, Alaska, on January 29, 1907, aged twenty-eight years. He was a member of the Delta Kappa Epsilon fraternity.

JOHNSON, Philip Edwards, A.B. 1891, M.D. 1894, died in Portland, Ore., on January 7, 1907. He was a member of the Psi Upsilon fraternity.

LEE, Benjamin Franklin, Jr., LL.B. 1861, A. B. Williams 1858 and LL.D. 1887, died at his home, 3 Gramercy Park, on March 4, 1907, after a lingering illness, aged 68 years. On the paternal side Mr. Lee was a direct descendant of Thomas Lee, who settled near the mouth of the Connecticut River in 1641 and was one of the founders of the town of Lyme. After graduation from the law school, Mr. Lee entered on the practice of his profession and turned his attention to real estate and commercial law, in which he built up a large practice. In 1883 he was appointed professor of real estate law and equity jurisprudence in Columbia University which post he held for nine years, in the meantime keeping up his practice. He married in 1871 Mary Ray King, who died in 1897. Mr. Lee was one of the founders of the University Club and a member of the New England Society, the St. Nicholas Society, the Sons of the Revolution, the Century Association, the Union Club, and the Knickerbocker Club.

LEWIS, Eugene Howard, LL.B. 1875, A.B. Yale 1873, became suddenly ill while riding on a Seventh Avenue car on March 1, 1907, and died before an ambulance arrived. Mr. Lewis was

born in Wisconsin fifty-five years ago. He was a member of the law firm of Eaton and Lewis of 44 Broad Street, and was a director in the Marconi Wireless Telegraph Company. He was a member of the Bar Association, University Club, Lawyers' Club, Alpha Delta Phi Club, New York Yacht Club, New York Athletic Club, Automobile Club of America, Yale Club, Rockaway Hunting Club, the Players', the Fairfield County Golf Club, and the Metropolitan Club of Washington. Mrs. Lewis was Miss Amy Busby, once Richard Mansfield's leading woman.

MILLER, Charles E., A.B. 1855, A.M. 1858, died during 1906, aged seventy years. He was a member of the University, Down Town and Riding clubs, and was a director of the Lawyer's Title Insurance and Trust Company.

O'DWYER, Joseph Patrick, M.D. 1890, died at Detroit in 1906, aged thirty-seven years.

REDMOND, Gould Hoyt, A.B. 1857, died in New York City on December 22, 1906, aged sixty-nine years.

RODMAN, Harry Heath, M.D. 1896, died at Buffalo, N. Y., on November 12, 1906.

ROOT, Samuel Cady, A.B. 1875, died on December 4, 1906.

RUHL, Henry Louis, 1907 Medicine, A.B. Fordham 1903, died of typhoid fever on November 23, 1906, aged twenty-four years.

SEYMOUR, George Franklin, A.B. 1850, died of pneumonia at Springfield, Ill., late in 1906, aged seventy-seven years (see p. 175).

STRUSS, William Edward, Mech. E. 1905, died on December 3, 1906, aged twenty-three years. He was a member of the Tau Beta Pi fraternity.

THOMSON, David, A.B. 1842, died in January, 1907, aged eighty-three years. He was one of the oldest graduates of Columbia University and a member of both the Cotton and Produce exchanges.

UNIVERSITY BIBLIOGRAPHY¹

FOR THE YEAR ENDING DECEMBER 31, 1906

PUBLICATIONS BY OFFICERS OF THE UNIVERSITY

ARRANGED ACCORDING TO DEPARTMENTS

Administration

BUTLER, President Nicholas Murray. Introduction to Devine's Efficiency and worth (p. vii-viii). Columbia University Press.—A fundamental problem; address before the Canadian Club of Toronto, April 27. *Proc. of the Canadian Club*, 3: 150-2.—Address at the opening of the Rockefeller Institute, New York, May 11. *Science*, 6 J1; n. s. 24: 12-3.—Memorial address on Carl Schurz; delivered at Carnegie Hall, June 6. COLUMBIA UNIV. QUARTERLY, S; 8: 409-12.—Commencement day address. *Same*, S; 8: 372-5.—Address to the alumni, Commencement day. *Same*, S; 8: 384-8.—A visit from British teachers. *Rev. of Rev.*, N; p. 547-8.—Address on public school administration before the Merchants Club of Chicago, December 8. *Pub. of the Merchants Club*, Chicago, 1906.—Editor, *Educational Review*, Vols. 31 and 32, 540 p. each.

KEPPEL, F. P. Editor, Proc. Seventh Conference, Association of American Universities, 75 p.—Editor, General catalogue of officers and alumni, 1754-1906, section relating to officers, p. 23-75.—Contributor to *The University Review*, London.

Anatomy

HALE, Dr. H. E. Measles complicated by double otitis media, double paracanthiasis, double mastoiditis, double operation and post-operative femoral phlebitis. Report of case. *Arch. of Pediat.* N; 23: 861-3.

PUTNAM, Dr. C. R. L. Concerning tracheo-oesophageal fistula. *Surg., Gynecology and Obstetrics*, My.

Anthropology

BOAS, Prof. F. Some philological aspects of anthropological research. *Science*, n. s. 23: 641-5.—Anthropometry of Central California. *Bull. Am. Mus. Nat. Hist.*, 17: 4; 347-80.—The measurement of variable quantities. *Arch. of Phil., Psych. and Scient. Meth.*, 5: 52 p.—Commencement address at Atlanta University, May 31, 1906. *Atlanta Univ. Leaflets*, 19: 15 p.—Physical types of the Indians of Canada; Indian languages of Canada; The Eskimo. *Annual Arch. Report of the Min. of Educ.*, Ontario, 1905: 84-116.—The Salish tribes of the interior of British Columbia. *Same*, 219-25.—The tribes of the North Pacific coast. *Same*, 235-49.—Der Einfluss der sozialen Gliederung der Kwakiutl auf deren Kultur. *Internationaler Amerikanisten-Kongress. Vierzehnte Tagung*, Stuttgart 1904; 141-8.—Kwakiutl texts. *Pub. of the Jesup North Pacific Expedition*, 10: 1-260.

SAVILLE, Prof. M. H. Biography of Alfredo Chavero. *Amer. Anthropologist*, n. s. 8: 701-3.

WISSLER, Dr. C. The whirlwind and the elk in the mythology of the Dakota. *Journ. Amer. Folk-lore*, 18: 257-68.—Ethnic types and isolation. *Science*, n. s., 26 Ja; 23: 147-9.—The Blackfoot Indians. *Annual Arch. Rep. of the Min. of Educ.*, Ontario, 1907; 162-78.

BANDELIER, A. F. Traditions of pre-columbian earthquakes and volcanic eruptions in western South America. *Am. Anthropol.*, Ja-Mr; 8.—Ueber Trepanieren unter den heutigen Indianern Boliviens. *Amerikanisten Kongress*, Stuttgart.

¹ Since a list of the official publications of the University, as well as the contributions and serial studies and student publications, is contained in the Annual Catalogue, it has been decided to omit this portion of the bibliography in the QUARTERLY hereafter. See Catalogue, 1906-1907, pp. 382-393.

Architecture

HAMLIN, Prof. A. D. F. The message of Greek architecture. *The Chautauquan*, Ap; 43: 107-21.—The school of architecture. COLUMBIA UNIV. QUAR., Je; 8: 211-23 (also in reprint).—The relation of decorative painting and sculpture to architecture. *The Western Architect*, Ap; 9: 37-8.—Library architecture abroad: Report to the board of trustees of the Brooklyn Public Library. *The Library Journal*, Oct; 31: 710-15.—Saint Paul's Chapel, Columbia University: the interior. *The Inland Architect and News Record*, Dec; 48: 51-2.—L'architecture extérieure des édifices hauts aux États-unis d'Amérique. *Compte Rendu et Notices du Congrès international des architectes, Cinquième session, Paris, 228-35.*

Astronomy

JACOBY, Prof. H. The variation of latitude and constant of aberration (with John K. Rees and Herman S. Davis). Contributions from the observatory of Columbia Univ. No. 9, 235 p.—How far north is "Farthest North"? *Harper's Weekly*, 8 D.—Columbia University Observatory, annual report. *Vierteljahrsschrift der Astronomischen Gesellschaft*, 41: 179-81.

MITCHELL, Dr. S. A. Total solar eclipses 1900-1901. Publications of the United States Naval Observatory, second series, 4: 269-96.—Astrophysics, *Encyclopedia Americana*.—Preliminary results of the United States Naval Observatory Eclipse Expedition in 1905. *Astrophysical Journal*, Mr; 23: 130-3.—Preliminary account of flash spectra taken Aug. 30, 1905. *Monthly Notices of the Royal Astronomical Society*, Mr; 66: 326-8.—Spectrograms taken at Daroca, Spain, Aug. 30, 1905. *Science*, n. s. 23: 449.—The total eclipse in Spain. *Queen's Quarterly*, Ap; My; Je; 13: 350-63.—An eclipse expedition to Spain. *Pop. Sci. Monthly*, Je; 68: 551-63.—Review of Wright and Hayford's Adjustment of observations 1906, 111-298. *Science*, n. s. 24: 551-2.

Bacteriology

WADSWORTH, Dr. A. The isolation of the meningococcus from a case of scarlet fever. *Proc. of N. Y. Path. Soc.*, F; 6: 3-10.—The practical significance of our knowledge of bacteria in their

relation to pneumonia. *Med. Record*, 5 My; 69: 699-702.—Studies on simple and differential methods of staining encapsulated pneumococci in smear and section. Biological studies by the pupils of William Thompson Sedgwick, 304-12; also *Journ. of Infec. Dis.*, 30 Je; 3: 610-8.—Mouth disinfection in the prophylaxis and treatment of pneumonia. *Journ. of Infec. Dis.*, 3: 774.

ZINSSER, Dr. H. A simple method for the plating of anaerobic organisms. *Journ. of Exp. Med.*, 1 Ag; 8: 542-6.

Botany

BRITTON, Prof. Em. N. L. Circular relative to membership. *Journ. N. Y. Bot. Gard.* Ja; 7: 1.—The students' research fund. *Same*, Ja; 7: 1-2.—Dr. MacDougal's new work. *Same*, Ja; 7: 2-4.—Additional members of the Garden staff. *Same*, Ja; 7: 4-5.—The Cuban columnneas. *Torreya*, 10 Ja; 5: 215.—Progress of construction work during the winter. *Journ. N. Y. Bot. Gard.*, F; 7: 23-4.—Report of the secretary and director-in-chief for the year 1905. *Bull. N. Y. Bot. Gard.*, 13 F; 5: 1-15.—Notes on West Indian Cruciferae. *Torreya*, 19 F; 6: 29-32.—Contributions to the flora of the Bahama Islands—III. *Bull. N. Y. Bot. Gard.* 19 Mr; 4: 137-43.—The classification of Cactaceae. *Journ. Hort. Soc. N. Y.*, Ap; 1: 15; *Plant World*, Jl; 9: 171-2.—The hemlock grove on the banks of the Bronx River and what it signifies. *Trans. Bronx Soc. Arts & Sci.*, My; 1: 5-13.—Recent botanical explorations in Porto Rico. *Journ. N. Y. Bot. Gard.*, My; 7: 125-39. f. 4-12.—A large oak struck by lightning. *Same*, Je; 7: 154-6. f. 20.—First grants from the students' research fund. *Same*, Je; 7: 157-8.—*Galactia Odonia* Griseb. *Torreya*, 25 Jl; 6: 149.—Recent explorations in Jamaica. *Journ. N. Y. Bot. Gard.*, N; 7: 245-50. f. 43.

UNDERWOOD, Prof. L. M. The genus *Stenochlaena*. *Bull. Torrey Club*, Ja; 33: 35-50.—Report of scientific directors. *Bull. New York Bot. Garden*, F; 5: 84-5.—The species of *Lycopodium* of the American tropics (with Francis E. Lloyd). *Bull. Torrey Club*, Mr; 33: 101-24.—American ferns vi.—Species added to the flora of the United States from 1900-1905. *Bull. Torrey Club*, Ap; 33: 189-205.—The number of known

ferns. Review of Christensen's Index filicum. *Science*, 14 D; n. s. 24: 761-3. —A report on the condition of the tropical laboratory. *Jour. New York Bot. Garden*, N; 7: 250-5. —American ferns VII—A. The American species of *Stenochlaena*. B. The status of *Poeclopteris crenata* Presl. *Bull. Torrey Club*, D; 33: 591-605.

CARDIFF, Dr. I. D. A study of synapsis and reduction. *Bull. Torrey Club*, Je; 33: 271-306.

Chemistry

BOGERT, Prof. M. T. The preparation of 6-brom-4-ketodihydroquinazolines from 5-brom-2-aminobenzoic acid and certain of its derivatives (with W. F. Hand). *Jour. Am. Chem. Soc.*, Ja; 28: 94-104. —Review of American chemical research. *Same*, Ja; 28: R. 18-28; F, R. 57-62; Mr, R. 90-97; Ap, R. 154-161; Jl, R. 302-304; S, R. 383-386; D, R. 588-589. —Review of Cohn's *Die Riechstoffe*; *Science*, 9 F; n. s. 23: 227. —Review of Semmler's *Die aetherischen Oele nach ihren chemischen Bestandteilen unter Berücksichtigung der geschichtlichen Entwicklung*. *Same*, 9 F; 23: 227-8. —On 5-amino-4-ketodihydroquinazoline and 5-amino-2-methyl-4-ketodihydroquinazoline (with V. J. Chambers). *Journ. Am. Chem. Soc.*, F; 28: 207-13. —Review of Radcliffe and Sinnatt's *A systematic course of practical organic chemistry*. *Same*, F; 28: 288-90. —Note on the condensation of succinylsuccinic esters with amidines (with A. W. Dox). *Same*, Mr; 28: 398-9. —Review of Gordin's *Progress in alkaloidal chemistry during the year 1904*. *Same*, Ap; 28: 546-7. —On dimethyl-4-aminophthalate and certain of its acyl derivatives (with Roemer Rex Renshaw). *Same*, My; 28: 617-24. —Researches on quinazolines (fifteenth paper). On a 3-aminoquinazoline and the corresponding 3,3'-diquinazoly, from 6-nitro acetanthranil and hydrazine hydrate (with H. A. Seil). *Same*, Jl; 28: 884-93. —Researches on quinazolines (Sixteenth paper). Synthesis of 6-nitro-2-methyl-4-ketodihydroquinazolines from 5-nitro acetanthranil and primary amines (with E. P. Cook). *Same*, O; 28: 1449-54. —Edmund Howd Miller. *COLUMBIA UNIV. QUARTERLY*, D; 9: 37-9. *Zeitschr. f. angew. Chem.*, 28 D; 19: 2141-2. —Editor organic abstracts in *Chemical Abstracts*.

MORGAN, Prof. J. L. R. Physical chemistry for electrical engineers. John Wiley & Sons. 8;+ 230 p. —On the combination of a solvent with the ions (with C. W. Kanolt). *Journ. Am. Chem. Soc.*, 28: 572-88. —Problems in nutrition (translated from the German of Otto Cohnheim). *Reports of Congress of Arts and Sciences*. —Reviews: Kenrick and DeLury. *An elementary laboratory course in chemistry*, Toronto, 1905. *Phys. Chem. Centr.*, 3: 158-60. —Ostwald-Turnbull. *Conversations on chemistry*. Part II, First steps in chemistry. The chemistry of the most important elements and compounds. *Same*, 3: 256. —Böttger-Smeaton. *The principles of qualitative analysis*. *Same*, 3: 591-2.

SHERMAN, Prof. H. C. Proteolysis in cow's milk preserved by means of formaldehyde (with W. G. Tice). *Journ. Amer. Chem. Soc.*, F; 28: 189-96. —The osazone test for glucose and fructose as influenced by dilution and by the presence of other sugars (with R. H. Williams). *Same*, My; 28: 629-32. —Seasonal variations in the composition of cow's milk. *Same*, D; 28: 1719-23. —Experiments upon the total metabolism of iron and calcium in man. *Proc. Soc. Expt'l Biol. and Med.*, D; 4: No. 2. —Review of Leffmann and Beam's *Select methods in food analysis*. *School of Mines Quarterly*, Ja; 27: 264. —Review of Wyer's *Catechism on producer gas*. *Same*, N; 28: 132. —Managing Editor, *School of Mines Quarterly*.

TUCKER, Prof. S. A. Some observations on the preparation of metallic calcium by electrolysis (with J. B. Whitney). *Journ. Amer. Chem. Soc.*, Ja; 28: 84-87. —The preparation of boron carbide in the electric furnace (with H. J. W. Bliss). *Same*, My; 28: 605-8. —Laboratory of applied electrochemistry at Columbia University. *Electrochem. and Metall. Ind.*, 4: 175-8. —Vertical arc furnace. *Same*, 4: 263. —The measurement of temperature in the formation of carborundum (with Alexander Lampen). *Journ. Amer. Chem. Soc.*, Jl; 28: 853-8. —Applied electrochemistry at Columbia University. *COLUMBIA UNIV. QUARTERLY*, Mr; 8: 129-35. —Review of Minet's *Production of aluminium and its industrial uses*. Trans. by L. Waldo. *School of Mines Quarterly*, 27: 265-266. —Review of Wiechman's *Notes on electrochemistry*. *Same*, 27: 363-4. —

Review of Experimental electrochemistry by F. Monroe Hopkins. *Same*, 27: 364.

CHAMBERS, Dr. V. J. Review of American chemical research. *Journ. Amer. Chem. Soc.*, Ap; 28: S. 148-54; My, R. 188-93; Jl, R. 304-6; S, R. 386-9; N, R. 483-491; D, R. 586-8.—On 5-amino-4-ketodihydroquinazoline and 5-amino-2-methyl-4-ketodihydroquinazoline (with M. T. Bogert). *Same*, Je; 28: 207-13.

Clinical Pathology

WOOD, Prof. F. C. Process of repair. Chapter IX of Surgery, its principles and practice. Ed. by W. W. Keen. W. B. Saunders Co. 1: 348-417.—Melanosarcoma with numerous metastases. *Proc. of N. Y. Path. Soc.*, 5: 82-85.—Case of obstructive jaundice and bichloride poisoning. *Proc. of N. Y. Path. Soc.*, 6: 53-54.

JESSUP, Dr. D. S. D. Value of blood examinations in surgical diagnosis. *Amer. Journ. of Obstet.*, 54: 33.

Comparative Literature

SPINGARN, Prof. J. E. La Critica letteraria nel Rinascimento. Traduzione italiana del Dr. A. Fusco, con prefazione di B. Croce. Bari: Laterza. xii + 358 p.—Notes in the *Nation*.

Dermatology

JACKSON, Dr. G. T. The life history of a case of mycosis fungoides. *Journ. of Cutaneous Dis.*, My; 24: 193-4.—Obituary notices and book reviews in the *Journal of Cutaneous Diseases*, and in the *N. Y. Medical Journal*.

Diseases of Children

JACOBI, Prof. Em. A. The tonsil as a portal of microbic and toxic invasion. *Arch. of Pediat.*, Jl; 23.—Tonsils, or general lymph apparatus of the pharynx—-which? *Arch. of Pediat.*, S; 23.—The Skene monument. *The N. Y. Med. Journ.*, 16 Je; 83: 1217-18.—Methylthionin hydrochlorid in inoperable cancer. *Journ. of Am. Med. Assoc.*, 10 N; 47: 1545-6.—In memoriam—Leroy Milton Yale, M.D. *Arch. of Pediat.*, N; 23.—Some of the benefits derived from medical libraries. *The Cleveland Med. Journ.*, N.—Proprietary medicines. *Journ. of the Am. Med. Assoc.*, 29 S; 47: 977-978.—The rôle of pure cow's milk in infant feeding. *Maryland*

Med. Journ., Je.—Address delivered at the annual meeting of the St. John's Guild. *Ann. Rep. of the St. John's Guild*, 1906.—Portrait of Dr. Carl Fortunatus Munde. *N. Y. Med. Journ.*, 10 N; 84: 917.

HOLT, Prof. L. E. Gonococcus-Infection bei Kindern. *Jahrb. f. Kinderh.*, Dec; 779-94.—Multiple abdominal tumors. *Arch. of Pediat.*, My; 23: 321-8.—Some phases of the feeding problem. *Same*, N; 23: 801-5.—Care and feeding of children. 4th ed. D. Appleton & Co. 192 p.

BERG, Dr. H. W. What has surgery left to medicine in the treatment of peritonitis in adults and children? *Med. Record*, 30 Je; 69: 1044-8.

LA FETRA, Dr. L. E. Medical treatment of enterocolitis in infants. *British Med. Journ.*, 13 O; 1906. As editor of *Archives of Pediatrics*, editorial articles on: The great prevalence of cervical lymphadenitis. Congenital heart disease without cyanosis. The seriousness and importance of feeding cases. The pertussis tuberculosis exhibitions. The abuse of cream and top-milk in infant feeding. Improving the milk supply. Prophylaxis of certain general diseases through care of the teeth. Dust and its danger to children. Winter underclothing for children. 23.

HOWLAND, Dr. J. The etiology of recurrent vomiting. *Trans. Amer. Pediat. Soc.*—The dosage of diphtheria antitoxin. *Arch. of Pediat.*; 23.

MEARA, Dr. F. S. Acute circumscribed edema. *Arch. of Pediat.*, My; 23: 361-76.—The incidence of disease in 1000 cases among children. *Same*, Jl; 23: 511-13.—A case of acute suppurative thyroiditis, with pressure symptoms relieved by intubation. *Same*, Ag; 23: 591-4.

ADLER, Dr. H. M. The nitrogen content of infant's stools. *Jahrb. f. Kinderh.*, Jl.

HAAS, Dr. S. V. Treatment of infective endocarditis. *Trans. of N. Y. Acad. of Med.*

MCCONNELL, Dr. R. H. Manifestations of rheumatism in children. *Trans. of N. Y. Acad. of Med.*

WILE, Dr. I. S. The differential study of leucocytes. *St. Louis Med. Review*, 20 Ja.—The value of blood examination in obstetrics and gynecology. *Amer. Journ. of Surg.*, Ap.—The

leucocytes in gonorrhoea. *Amer. Journ. of Med. Sci.*, Je.—The blood changes in mumps. *Arch. of Pediat.*, S; 23.

HERMANN, Dr. C. Tics in children and their educational treatment. *Arch. of Pediat.*, Je; 23.—Small frequent meals in the treatment of certain biliary affections. *N. Y. Med. Journ.*, 22 S; 84: 582-3.

Economics and Social Science

SELIGMAN, Prof. E. R. A. Principles of economics; with special reference to American conditions. 2nd edition revised. Longmans, Green & Company. 464+613 p.—La traduzione e l'incidenza delle imposte. Prima traduzione Italiana sulla seconda edizione Americana. Biblioteca dell'Economista, V. serie, edita dall'Unione Tipografico-Editrice Torinese, 1906. 280 p.—A Japanese translation and two Russian translations of The Economic interpretation of history.—Seligman's Principles of economics: a reply and a rejoinder. *Quart. Journ. of Economics*, N; 21: 151-60.—Dr. Schumacher and the Kaiser Wilhelm lectureship. *The Amer. Monthly Rev. of Rev.*, N; 34: 548-9.

GIDDINGS, Prof. F. H. Sociologia inductiva (Spanish translation of Inductive sociology). Madrid. 368 p.—Readings in descriptive and historical sociology. The Macmillan Company. 244+545 p.—A good example. *The Independent*, 61: 256-7.—A favored class; review of Henry George Jr.'s The menace of privilege. *New York Times Saturday Rev. of Books*, 55: 61-2.—Race improvement through civilization. *The Independent*, 61: 383-4.—The family that will be. *The Twentieth Century*, Mr; 3: 17-8, 22, 27.—Sovereignty and government. *Pol. Sci. Quart.*, Mr; 21: 1-27.—Review of Breasted's History of Egypt. *Same*, S; 21: 529.—Mr. Bryan and our complex social order. *The Century Mag.*, N; 73: 154-7.—The natural history of American morals. *The Times Mag.*, D; 1: 33-6.—Review of Lang's Secret of the totem. *Pol. Sci. Quart.*, D; 21: 724.

CLARK, Prof. J. B. President Hyde's Platform for modern christians. *Congregationalist*, 17 N; 646.

SEAGER, Prof. H. R. Edward Atkinson. *The Economic Journal*, Je; 62: 308-9.—Reviews of Davis's Corporations and Sidgwick's Essays and addresses.

Pol. Sci. Quart., S; and D; 21: 553-5 and 720-2.

MOORE, Prof. H. L. Paradoxes of competition. *Quart. Journ. of Economics*, Fe; 20: 211-30.

SIMKHOVITCH, Prof. V. G. Poslednie godi borbi Rossii s samoderzhaviem. V. D. Karchagin, Moskva, 1906. 83 p.—The Russian peasant and autocracy. *Pol. Sci. Quart.*, D; 21: 569-95.—The Morgan manuscripts. *The Evening Post*, 13 O; p. 7.—Exhibition of illuminated manuscripts. COLUMBIA UNIV. QUARTERLY, D; 9: 44-6.—Review of Mil-yukov's Russia and its crisis. *Pol. Sci. Quart.*, S; 21: 27-9.

DEVINE, Prof. E. T. Efficiency and relief: A programme of social work. Columbia University Press; The Macmillan Company. viii+45 p.—Congress and the children. *Charities*, 3 F; 587-8.—Probation: The proposed New York system. *Same*, 24 Mr; 896.—The relief of the stricken city. *Amer. Monthly Rev. of Rev.*, 1 Je; 683-8.—The dominant note of the modern philanthropy: Address as President of the 33rd National Conference of Charities and Correction, Philadelphia. Proceedings: 1-10.—The Principles of relief (rejoinder to review). *Charity Organization Rev.*, London, Ag; 110-3.—California relief. *Amer. Nat. Red Cross Bull.*, O; No. 4: 5-28.—Of today and the Bethlehem greeting. *Charities*, 1 D; 351.—The housing problem in San Francisco. *Pol. Sci. Quart.*, D; 21: 596-608.—Reviews: Kelley's Some ethical gains through legislation. *Same*, Je; 21: 326-9.—Masterman's In peril of change. *Charities*, 15 D; 463.—Parson's The family. *Same*, 15 D; 475-6.—Chittenden's Physical economy in nutrition. *Same*, 15 D; 500-1.

SCHUMACHER, Prof. H. A. Die Stellung des Staates zu den Kartellen. Veröffentlichungen der Landwirtschaftskammer für die Rheinprovinz. Bonn. 22.—Die Ursachen und Wirkungen der Konzentration im Deutschen Bankwesen. *Schmoller's Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft*, J1; 883-925.—Inaugural address at Columbia University. COLUMBIA UNIV. QUARTERLY, D; 9: 17-26.

Education (Teachers College)

RUSSELL, Prof. James E. Report of the Dean of Teachers College, Columbia University, 35 p.—The trend in Amer-

ican education. *Educ. Rev.*, Je; 32: 28-41.—Editor *Teachers College Record*, 7: 511 p.

BAKER, Prof. Franklin T. Language reader series. Franklin T. Baker and George R. Carpenter. 6 vols. Pp. 138, 152, 284, 345, 477 and 482. The Macmillan Company.

BALDWIN, Elizabeth G. Report on instruction in library administration in normal schools; submitted to the National Council of Education by a committee on cooperation between public schools and public libraries. *My. N. E. A.*, 71 p.

BIGELOW, Prof. M. A. Several articles on nature-study; an article on elementary physiology; reviews of nature-study books in *Nature-Study Review*, Vol. 2.—Editor of *same*.

FARNSWORTH, Prof. C. H. Songs for schools. Macmillan, 138 p.—The Sunday School hymn-tune. *Relig. Educat.*, O; 1: 129-34.

FURST, Clyde. Storm Spirit—from the Anglo-Saxon. *The English Graduate Record*, D-Ja; 1: 113.—Breakfasting with Portia. *N. Y. Evening Post, Sat. Suppl.*, 28 Ap.—Wood's Hole. *Same*, 4 Ag.—The hobby of Professor Maturin. *Same*, 29 S.—The vigor of the small college. *Same*, 1 D.—American theories of poetry. *Publ. Mod. Lang. Assoc. of Amer.*, n. s., 14: 21.

HODGE, R. M. Literature of religious education. Universalist Publ. House, Boston. 16 p.—Syllabus of the Book of Isaiah, Union Theological Seminary, O; 7 p.—Hodge historical maps for Bible study, No. 4. Palestine, elevation map. W. B. Harrison, New York.—Worship in the Sunday School. *Biblical World*, Ja; 27: 42-47.—A Sunday School curriculum. *Same*, Ap; 27: 271-4, My; 27: 348-56, Je; 27: 418-22.—Model Sunday School at Teachers College. *Relig. Educat.*, O; 1: 140-2.

KINNE, Prof. Helen. Domestic science for the housekeeper. *Good House-keeping*, Ag; 148-51.—Lake Placid conference on home economics. *Proc. Seventh Annual Conference*, 1906: Home economics in secondary education, p. 10-16; Economics in trade schools for girls, p. 16-19.

MONROE, Prof. Paul. Education, national education, universities, moral and

religious education, normal schools, and other articles in *Nelson's Encyclopaedia*.

NORSWORTHY, Dr. Naomi. The psychology of mentally deficient children. Science Press.—Review of Borgquint's *Crying*. *Journ. of Psych., Phil. and Sci. Methods*, 13 S; 3.

NOYES, William. Overwork, Idleness of industrial education? *Annals Amer. Acad. Polit. and Soc. Sci.*, Mr; 27: 84-95.—The idle boy. *Indep.*, 9 Ag; 61: 330-2.—Design in the woodworking class. *School Arts Book*, O; 6: 89-94; and N; 6: 179-86.—Work as a factor in education. *Proc. Convention of Eastern Art Teachers Assoc. and Eastern Manual Training Assoc.*, held in New York, 1906, p. 11-20.—Editor *same*.

PRETTYMAN, Dr. Virgil. First book in Latin (with A. J. Inglis). Macmillan Co.

RICHARDS, Prof. C. R. Report of the Massachusetts Commission on Industrial and Technical Education. *Manual Train. Mag.*, Jl; 7: 185-95; *Charities and The Commons*, Je; 16: 334-9.

SMITH, Prof. D. E. Portfolio of eminent mathematicians. Part II. Open Court. Pub. Co. 12 p., 12 ill.—*Same*, high-school ed., 8 p., 8 ill.—Monograph, No. 1. History of modern mathematics. John Wiley and Sons. 6 + 81 p.—The question of problems in elementary mathematics. *Educ. Rev.*, Mr; 31: 300-5.—Problems for grade III. *Primary Plans* (Owen Pub. Co.), F.—Problems for the second grade. *Same*, Je.—The metric system. *Teachers World* (Owen Pub. Co.), Je.—Do the college entrance requirements demand a disproportionate amount of time in the secondary school curriculum? *Proc. Assoc. of Colleges and Prep. Schools of Middle States and Md.*, 1906: 97-105.—The nature of applied problems in algebra. *School Sci. and Math.*, Je; 6: 482-8.—Review of Freund's translation of Ball's history of mathematics. *Bull. Amer. Math. Soc.*, Mr; 12: 309-14.—Review of Abhandlungen zur Geschichte der mathematischen Wissenschaften. *Same*, Mr; 12: 314-15.—Some recent foreign text-books. *Same*, Je; 12: 458-63.—Shorter notices. *Same*, D; 13: 139-42. (Review of Simon's *Ueber die Entwicklung der Elementar-Geometrie und Simon's Methodik der elementaren*

Arithmetik in Verbindung mit algebraischer Analysis.)

THORNDIKE, Prof. E. L. The principles of teaching. A. G. Seiler, xii + 293 p.—Sex in education. *The Bookman*, 23: 211-4.—The opportunity of the high school. *Same*, 24: 180-4.—A sociologist's theory of education. *Same*, 24: 290-4.—An empirical study of college entrance examinations. *Science*, 1 Je; n. s., 23: 839-45.—The future of the College Entrance Examination Board. *Educ. Rev.*, My; 31: 470-83.—Review of Lester F. Ward's Applied sociology. *Science*, 7 S; n. s., 24: 299-301.—Review of Wood's Heredity in royalty. *Same*, 4 My; 23: 693-4.

VAN ARSDALE, May Belle. Physical science in Horace Mann High School. *Teachers Coll. Record*, My; 7: 32-51.—Joint author of Simple experiments in physics, 2 vol. A. S. Barnes & Co. 140 p., 120 p.

WOODHULL, Prof. J. F. Simple experiments in physics. A. S. Barnes & Co. 263 p.—Modern trend. *Educ. Rev.*, Mr; 31: 236-47.—Humidity chart. *Science*, 20 Jl; n. s., 24: 92.—The per cent. of oxygen in the air. *School Sci. and Math.*, D; 6: 762.—Some experiments with a piece of iron wire. *Same*, My; 6: 400.—The intensive method in chemistry. *Same*, O; 6: 585-8.

WOOLMAN, Prof. Mary S. Trade education for girls. Proceedings of Lake Placid Conference held Sept. 15-22, 1906; p. 7-11.—Application of art to girls' handwork. *Proc. Manual Train. Assoc.*, 31 My-2 Je, 1906; p. 195-6.—Women and wage earning. *Amer. Mag.*, Ag; 1: 428-9.—The Manhattan Trade School. Report published Jan. 1906; p. 1-45.

Engineering, Civil

BURR, Prof. Wm. H. Report of the Board of Consulting Engineers for the Panama Canal (with other members of the Board of Consulting Engineers). 10 Ja; 1906.—Some aspects of the Panama Canal. *Science*, Jl; n. s., 24.—The Panama Canal. *New Internat. Encyclopedia*.—The technical school and the university. An address made at the opening of Columbia University, September, 1906. COLUMBIA UNIV. QUARTERLY, D; 9: 9-17, and *Science*, n. s., 26 O; 24.—Technical education in the United States; Engineering schools in

the United States. *Nelson's Encyclopedia*, N.—Report of a commission appointed by the Commissioner of Bridges, N. Y. City, to consider plans for terminal improvements at the Manhattan end of the Brooklyn Bridge (with other members of the commission), D.

BLACK, A. Comparative tests of cement mortars with different qualities of sand. *Engin. News*, S; 56: 236.

MORRISON, C. E. Articles on Roads and pavements, surveying, etc. *Nelson's Encyclopedia*.—Articles on Blasting, etc. *New Internat. Encyclopedia*.—In charge of revision of engineering articles. *Same*.

Engineering, Electrical

CROCKER, Prof. F. B. The management of electrical machinery. D. Van Nostrand Co. 223 p.—The Decker primary battery. *Amer. Electrochem. Soc.*, 8 O; *Electrical World*, 13 O; 48: 724-7; *Sci. Amer. Suppl.*, O; 13: 25736-7.—Sodium as a conductor. *Electrical World*, 1 D; 48: 1116.

Engineering, Mechanical

HUTTON, Prof. F. R. The gas engine. Jno. Wiley & Sons. New edition. 1906. 478 p.

WOOLSON, Prof. I. H. Investigation of effect of heat upon the crushing strength and elastic properties of concrete. Reprint from *Trans. Am. Soc. for Testing Materials*, Ja; (28 p.). Reprinted in *Fireproof Mag.*, Ap; 156-60.—Investigation of strength, absorption fire and freezing resistance of sand-lime brick. *Trans. Am. Assn. Sand-Lime Brick Mfrs.* 18 p. Reprinted *Eng. News*, 14 Je; 55: 662-5.—Investigation of the thermal conductivity of concrete. *Eng. News*, 28 Je; 55: 723-7; *Eng. Record*, N. Y., 21 Jl; 74-7; *Builder's Journal and Arch. Eng.* (London, Eng.), 29 Ag; 17-20; *Cement Age*, S; *Fireproof Mag.*, O; 152-9.

LUCKE, Prof. C. E. Gas versus steam engines for power. Discussion. *Am. Soc. Mech. Eng.*, D.—Venturi tubes for metering gas and steam. Discussion. *Same*, D.—The gas turbine. *Eng. Mag.*, Ag; 21: 641-56.

RAUTENSTRAUCH, Prof. W. Syllabus of lectures and notes on machine design. D. Van Nostrand Co. 98 p.—Factor of safety in transmission gears. *Horseless Age*, N; 595-6.

English

MATTHEWS, Prof. Brander. Introduction to The sketch-book. Longmans, Green & Co. 9+20 p.—Introduction to The humor of continental Europe. *World's Wit and Humor*, 10: 15-23.—Enriched books. *Fifth Year-Book of the Bibliophile Society*, 1906: 67-76.—Present problems of belles lettres. *St. Louis Congress of Arts and Sciences*, 3: 545-57.—The supreme leaders. *Munsey's*, Ja; 34: 460-5.—Comedy of one kind or another. *Appleton's*, Ja; 7: 24-8.—Persuasion and controversy. *Outlook*, 13 Ja; 82: 86-91.—Massinger and his collaborators. *English Graduate Record*, Ja; 2: 1-5.—Ibsen the playwright. *Bookman*, F-Mr; 22: 568-74; 23: 18-27.—A handful of epigrams. *Munsey's*, Mr; 34: 728-30.—On the publishing of plays. *North Amer. Rev.*, Mr; 182: 414-25.—American character. COLUMBIA UNIV. QUARTERLY, Mr; 8: 97-114 (also independently in 8vo, 34 p. T. Y. Crowell & Co.)—Simplifying our spelling. *Harper's Weekly*, 24 Mr; 50: 416 (also in *Educational Review*, Je; 32: 15-20).—Stray notes on stage-humor. *Appleton's*, Ap; 7: 490-3.—Thackeray once more. *Scribner's*, Ap; 39: 508.—Some new editions of old plays. *New York Times*, 7 Ap.—The spelling of yesterday and the spelling of tomorrow. *Outlook*, 14 Ap; 82: 848-53 (also independently in 8vo, 8 p. Simplified Spelling Board).—How can we better our spelling? *Munsey's*, Je; 35: 294-9.—Americans and British. *Reader*, Jl; 8: 130-7.—Is blood thicker than water? *New York Herald*, 1 Jl.—The new Narragansett. *Harper's Weekly*, 7 Jl: 50: 955-8.—The story of the short story. *Munsey's*, Ag; 35: 539-47.—How to get simplified spelling into the schools. *New York Times*, 25 Ag.—Spelling reform in the United States. *London Times*, 8 S.—The scream of the spread-eagle. *New York Herald*, 16 S.—Reform and reformers. *North Amer. Rev.*, 22 S; 183: 461-73.—The statue of snow. *Munsey's*, O; 36: 109-12.—Review of Saintsbury's English prosody. *North Amer. Rev.*, O; 183: 671-3.—An open letter to authors. *Scribner's*, N; 40: 635-6.—Concerning the soliloquy. *Putnam's*, N; 1: 180-6.—Orthography and simplified spelling. *Outlook*, 3 N; 80: 576-8.—Review of the King's English. *Educator*, N; 32: 425-30.—The simplifica-

tion of French spelling. *Pop. Sci. Monthly*, D; 59: 539-44.—Molière and other actors. *New York Times*, 30 N.

CARPENTER, Prof. G. R. General editor, Longmans' English classics; Palgrave's The golden treasury; Selections from the Fairie Queene; Select poems of Robert Browning; Twelfth night; King Henry the fifth; Irving's The sketch-book; Ruskin's Sesame and lilies; DeQuincey's Joan of Arc and The English mail-coach; Carlyle's Heroes and hero-worship. 9 vols. Longmans, Green & Co.—(With F. T. Baker) Language readers. 6 vols. The Macmillan Co.—(With T. C. Mitchell) Exposition in classroom practice. The Macmillan Co. 15+376 p.—(With Dorothea F. Canfield) Elementary composition. The Macmillan Co. 16+274 p.—Rhetoric and English composition. The Macmillan Co. 18+432 p.—English grammar. The Macmillan Co. 15+213 p.—The study of English in Columbia University. COLUMBIA UNIV. QUARTERLY, S; 8: 389-400.

TRENT, Prof. W. P. New editions of Franklin. *The Forum*, Ja-Mr; 37.—Introduction to Montgomery's Benjamin Franklin; his life written by himself. Ginn & Co. v-xvii p.—Dr. Birkbeck Hill and his edition of Johnson's Lives of the poets. *The Forum*, Ap-Je; 37: 540-51.—The relations of history and literature. *Virginia Mag. of Hist. and Biog.*, Ap; 13: 451-72 (also as a pamphlet, 1 l.+24 p.).—An academic sermon. *The Sewanee Rev.*, Jl; 14: 267-80.—Thomas Hardy's Dynasts. *The Forum*, Jl-S; 38: 86-94.—A few French books of today. *Same*, O-D; 38: 205-16.—Sohrab and Rustum with other poems by Matthew Arnold (edited with W. T. Brewster). Ginn & Co. 25+107 p.—Blackmore's Lorna Doone (edited with W. T. Brewster). Ginn & Co. 36+766 p.—Introduction to Lowell's Fireside travels. T. Y. Crowell & Co. ix-xx p.

BREWSTER, Prof. W. T. (With W. P. Trent) Sohrab and Rustum. Ginn & Co. 25+107 p.—(With W. P. Trent) Blackmore's Lorna Doone. Ginn & Co. 36+766 p.—Types of recent biography. *The Forum*, Jl-S; 38: 95-105.

THORNDIKE, Prof. A. H. The Maid's tragedy and Philaster by Beaumont and Fletcher. Edited with notes and a vocabulary. D. C. Heath & Co. 46+346 p.

LAWRENCE, Dr. W. W. Structure and

interpretation of Widsith. *Modern Philology*, O; 4: 329-74.

KRAFF, Dr. G. P. Andreas and The fates of the apostles: Two Anglo-Saxon narrative poems. Ginn & Co. 81 + 238 p.—The origin of language. *The Golden Age*, My; 216-18.—The Andreas and St. Andrew. *Scottish Hist. Rev.*, JI; 3: 522-3.—Review of Bradley's Making of English and Jespersen's Growth and structure of the English language. *Educational Rev.*, Ap; 31: 423-9.

PARKER, W. B. Poems of Edward Rowland Sill (edited with biographical sketch). Household edition. Houghton, Mifflin & Co. 21 + 423 p.

Genito-Urinary Diseases

REYNOLDS, Dr. W. S. The non-operative treatment of prostatic hypertrophy. *Med. Record*, 17 F; 69: 260-1.—The pathology of prostatic hypertrophy. *Amer. Journ. of Urology*, 2: 353-7.

Geology

KEMP, Prof. J. F. Formation of garnet zones at the contacts of eruptive rocks and limestones. *Mining and Sci. Press*, 24 Mr.—Problem of the metaliferous veins. *Economic Geology*, D-Ja; 1: 207-32.—Tenth International Geological Congress. COLUMBIA UNIV. QUARTERLY, D; 9: 42-4.

GRABAU, Prof. A. W. Guide to the geology and palaeontology of the Schoharie Valley in eastern New York. *New York State Museum Bull.*, 92: 73-386; 24 plates, 225 text figures, 1 colored geologic map. Ap.—North American index fossils (with H. W. Shimer). Pt. 1: 1-106 (figs. 1-175), Ap; 1906.—Types of sedimentary overlap (Walker Memorial Prize Essay): *Geol. Soc. of Am. Bull.*, 31 D; 17: 567-636, figs. 1-17.

BERKEY, Dr. C. P. Review of Luquer's Minerals in rock sections. *School of Mines Quart.*, Ja; 27: 264-5.—Petrography of the Goldfield mining district, Nevada (with J. B. Hastings on the geology). *Bull. Amer. Inst. Mining Eng.*, Mr; 36: 303-14.—Paleogeography of Saint Peter Time. *Bull. Geol. Soc. of Amer.*, Je; 17: 229-50, plate 24.

Germanic Languages and Literatures

CARPENTER, Prof. W. H. The Association of American Universities. COLUMBIA UNIV. QUARTERLY, Je; 8: 232-44.—The reaction of graduate work on

the other work of the University. *Educational Rev.*, Ap; 31: 333-8.

THOMAS, Prof. Calvin. An anthology of German literature. Part First: From the earliest times to the sixteenth century, in modern German translations. D. C. Heath & Co. vi + 195 p.

HERVEY, Prof. W. A. Ludwig Fulda. Vortrag, gehalten vor dem Deutschen Verein der Columbia Universität am 13. Februar. *Staten Island Post*, 24 F.—American university training. Translation from the German of Walther Küchler. *Educational Rev.*, N; 32: 371-84.

TOMBO, Prof. R., Jr. Daniel Chester French: Ein amerikanischer Künstler. *Die Glocke*, D; 1: 377-9.—Englisch-Amerikanische Goethe Bibliographie. *Goethe Jahrbuch*, 27: 304-9.—The geographical distribution of the student body at a number of eastern and western universities and eastern colleges. *Science*, 10 Ag; n. s., 24: 166-73.—University registration statistics. *Same*, 21 D; n. s., 24: 793-805.—Columbia University statistics. COLUMBIA UNIV. QUARTERLY, 8: 163-4, 210, 268-9, 344-6, 448; 9: 103-4.—Teachers College statistics. *Teach. Coll. Record*, Mr; 7: 237-8.—Foreigners in our colleges. *N. Y. Eve. Post*, 21 JI.—The recent growth of Columbia University. *Washington Post*, 5 Mr.—Summer Session of 1906. COLUMBIA UNIV. QUARTERLY, S; 8: 431-6.—Reprints and abstracts of statistical articles in *U. of P. Alumni Register*, *The Michigan Alumnus*, *Univ. of Kansas Grad. Mag.*, *City College Quarterly*, *Old Penn*, *The Caduceus*, etc., etc.—Registrar's annual report. *Col. Univ. Annual Reports*, p. 185-220.—Das höhere Unterrichtswesen der Vereinigten Staaten. *Volksblatt und Freiheitsfreund*, Pittsburgh, 17 Mr; *Staatszeitung*, New York, 29 Ap.—Theta Delta Chi houses. 30 p., 17 ill.—Editor, 14th edition General catalogue of officers and alumni of Columbia University, 1754-1906.—Managing Editor, COLUMBIA UNIV. QUARTERLY, 8: 97-448; 9: 1-104.

PERIAM, Dr. Annina. Hebbel's Nibelungen: Its sources, method, and style. Columbia University Germanic Studies, Vol. III, No. 1. The Columbia University Press. xiv + 220 p.

HEUSER, F. W. J. Review of Fossler's Practical German conversation. *Modern Language Notes*, Mr; 21: 87-8.

Greek

SHEAR, Dr. T. L. The influence of Plato on Saint Basil. J. H. Furst Co. 60 p.

Gynecology

STONE, Dr. W. S. The treatment of hyperemesis gravidarum. *N. Y. State Journ. of Med.*, My; 6: 199-202.—The technique of the repair of large vesical fistulae. *Surg. Gynec. and Obstet.*, 3: 107.—The gonococcus in the puerperium, with report of seventeen cases (with E. McDonald). *Surg., Gynec. and Obstet.*, F; 2: 151-62.—The puerperal types of sepsis. *Med. Record*, 11 Ag; 70: 213-5.

MATHEWS, Dr. F. S. The body's utilization of fat. *Pop. Sci. Monthly*, My; 68: 425-30.—One-child sterility. *Surg. Gynec. and Obstet.*, My; 2: 509-11.—The urine in normal pregnancy. *Amer. Journ. of Med. Sci.*, Je; 131: 1058-60.

OASTLER, Dr. F. R. The processes of reproduction. *Amer. Journ. of Obstet.*, Ag; 54: 145-58.—The repair of lacerations following labor. *Trans. Med. Soc. Greater New York*. 1906.

TAYLOR, Dr. Howard C. Pfannenstiel's incision in gynecology. *Surg. Gynec. and Obstet.*, My; 2: 538-40.—Leucocyte counts in gynecology. *Am. Journ. of Obstet.*, My; 53: 640-50.

MEEKER, Dr. H. D. A compend of operative gynecology. The Grafton Press. 66 p.

History and Political Philosophy

SLOANE, Prof. W. M. Proportions in American history. New York Historical Society. 27 p.—Nationality and democracy. Proceedings of St. Andrew's Society, p. 18-22.—Washington's strategy. *Century Mag.*, F; 73: 317-24.—Review of Browning's Napoleon: First phase. *Am. Hist. Rev.*, Ja; 11: 385-6.—Review of Cambridge modern history. Vol. IX (Napoleon). *Same*, O; 11: 135-8.

OSGOOD, Prof. H. L. (Editor) Minutes of the Common Council of the City of New York, 1675-1776 (with A. B. Keep). Dodd, Mead & Co. 8 vols. I, 432 p.; II, 458 p.; III, 488 p.; IV, 500 p.; V, 479 p.; VI, 453 p.; VII, 463 p.; VIII, 478 p.—Preface of the Records of the Virginia Company of London. Washington, Govt. Printing Office, 1906.

Vol. I, 5-7.—Review of Innes's England under the Tudors. *Pol. Sci. Quart.*, Je; 21: 346-7.—Review of Hunt's History of England, 1760-1801. *Same*, 21: 348-50.

ROBINSON, Prof. J. H. Readings in European history, Vol. II, Ginn and Co. xxxii + 629 p.—Recent tendencies in the study of the French Revolution. *Amer. Hist. Rev.*, Ap; 11: 529-47.—Review of Cambridge modern history, Vol. IX (Napoleon). *Pol. Sci. Quart.*, D; 21: 702-3.—The conception and method of history. *Proc. Congress of Arts and Sciences*, St. Louis, 1904. 2: 40-51.

BOTSFORD, Prof. G. W. The social composition of the primitive Roman populus. *Pol. Sci. Quart.*, S; 21: 498-526.—Review of Audollent's *Defixionum tabellae quotquot innotuerunt tam in graecis orientis quam in totius occidentis partibus praeter atticis in corpore inscriptionum atticarum editas*. *Amer. Hist. Rev.*, Ja; 11: 335-6.

BEARD, Dr. C. A. An introduction to the English historians. The Macmillan Company. 11 + 669 p.—Review of Jaurès' *Constituante, Législative, and Convention jusqu'au 9 Thermidor*, and Deville's *Du 9 Thermidor au 18 Brumaire*. *Pol. Sci. Quart.*, Mr; 21: 111-20.—Review of Vinogradoff's *The growth of the manor*. *Same*, Mr; 21: 165-7.—Review of Paul's *Life of Froude*. *The Independent*, Mr; 60: 683-5.—Review of Hodgkin's *History of England to 1066* and Tout's *History of England, 1216-1377*. *Pol. Sci. Quart.*, D; 21: 699-702.

HAWORTH, Dr. P. L. The Hayes-Tilden disputed presidential election. The Burrows Bros. Co. 11 + 365 p.—Biographies and articles on topics in American history. *Nelson's Encyclopedia*.—Record of political events. *Pol. Sci. Quart.*, Je; 21: 353-80; D; 725-52.

Laryngology

LEFFERTS, Prof. G. M. Abstracts, book reviews, literary criticism, notices and reports as American editor. *Internat. Centralbl. f. Laryngologie, Rhinologie u. verwandte Wissenschaften*. Berlin.

SIMPSON, Prof. W. K. Tracheal stenosis. *Trans. of Amer. Laryngol. Assoc.* 1906: 292-301.

Latin

PECK, Prof. H. T. Fonetik refarm by edict. *The Bookman*, O; 24: 171-2.—Review of Stress accent in Latin poetry. *Same*, N; 265-7.—The articles American literature, Elizabethan age, English literature (in part), Latin literature (in part), and Literature, in *The United Editors' Encyclopedia* (New York, The United Editors' Association).—The article Slang in *Nelson's Encyclopedia* (New York, Thomas Nelson & Sons).—Revision of about 300 articles relating to the Greek and Latin literatures and languages in *The New International Encyclopedia* (Dodd, Mead & Co.).—Twenty years of the Republic, with a selected bibliography. Dodd, Mead & Co., 811 p.

EGBERT, Prof. J. C. Review of von Mach's A handbook of Greek and Roman sculpture. *The Bookman*, Mr; 23: 101-2.—Review of Amelung and Holtzinger's *The museums and ruins of Rome*. *Same*, My; 23: 335.—Review of Whibley's *A companion to Greek studies*. *Same*, Je; 23: 454-5.—Augustus' Altar of Peace. *Records of the Past*, Ap; 5: 104-11.—Sancta Maria antiqua. *Same*, My; 5: 131-7.

KNAPP, Prof. C. Review of Norden's edition of Aeneis VI. *Amer. Journ. of Philol.*, Mr; 27: 70-83.—Review of Dougan's *Disputationes Tuscullanae*. *Same*, Mr; 27: 111.—Notes on the Mostellaria of Plautus. *Classical Rev.*, N; 20: 395-7.—The attitude of the Romans toward literary pursuits. *The Latin Leaflet*, 10 D; 17 D; 7: Nos. 159, 160.—A discussion of Cicero *De Officiis* i. 7-8. *Proc. Amer. Phil. Assoc.*; 36: xxxvi-xxxvii.—Notes on Plautus and Terence. *Same*, 36: xlvii.—Travel in ancient times as seen in Plautus and Terence. *Same*, 36: xlvii.—Scenes from *Romey Comedy* at Normal College. *Latin Leaflet*, 8 Ja; 6: No. 136.

OLCOTT, Prof. G. N. *Thesaurus linguae latinae epigraphicae*: A dictionary of the Latin inscriptions. Vol. I, fasc. 5 (adit-adtr), fasc. 6 (adtr-aedi), fasc. 7 (aedi-aes). Rome, Loescher & Co. p. 97-168.—The ways of the gipsy. *Sunday Mag. of the Balt. Sunday Herald*, 10 Je; p. 7-8.—Latin inscriptions—inedited or corrected. *Am. J. Arch.*, 10: 154-8.

HIRST, Dr. Gertrude. On Ovid, Meta-

morphoses, xi, 119-24. *Classical Rev.*, Mr; 20, 113-4.—Note on Horace, Odes III, iv, 9, 10. *Same*, JI; 20: 304-5.—Review of Hill's *Historical Greek coins*. *The Speaker*, 1 S; 1: 517.

Law (Private)

BURDICK, Prof. F. M. The law of partnership, including limited partnership. Little, Brown and Company. 60 + 451 p.—Are defectively incorporated associations partnerships? *Columbia Law Rev.*, Ja; 6: 1-14.

Law (Public) and Comparative Jurisprudence

BURGESS, Prof. J. W. Antrittsrede des ersten Inhabers der Roosevelt-Professur an der Universität zu Berlin. 27 O; *Berliner Akademische Wochenschrift*, Sonder-Ausgabe. 10 p.

SMITH, Prof. Munroe. Die Aufgaben der römischen Rechtsgeschichte. *Leonhard's Studien zur Erläuterung des bürgerlichen Rechts* (Breslau). 17: 49-71.—The French presidency and the American. *Rev. of Rev.*, F; 23: 163-5.—Reviews of Hozumi's Japanese civil code, Hozumi's Ancestor worship, Ikeda's Hauserbfolge in Japan, Tsugaru's Japanese Adoption and Asakawa's Institutional life of Japan. *Polit. Sci. Quart.*, Mr; 21: 159-64.—Prof. Burgess on the Monroe doctrine. *New York Times*, 2 D.—Managing editor, *Political Science Quarterly*, 1906.

GOODNOW, Prof. F. J. Cases on administrative law. Callaghan & Co. Chicago. 2 vols. 10 + 250, 20 + 709 p.—The growth of executive discretion. *Proc. Amer. Polit. Sci. Assoc.*, 29-44.—Review of Speyer's *L'empire colonial Britannique*. *Polit. Sci. Quart.*, D; 21: 709-711.

MOORE, Prof. J. B. A digest of international law, as embodied in diplomatic discussions, treaties and other international agreements, international awards, the decisions of municipal courts, and the writings of jurists, and especially in documents, published and unpublished, issued by presidents and secretaries of state of the United States, the opinions of the attorneys-general, and the decisions of courts, federal and state. 8 vols., 8vo. p. lxxx + 939; viii + 1123; viii + 1022; vii + 806; vii + 870; vii + 1037; x + 1109; (Index matter) 453. Washington: Gov. Print. Office, 1906.

Library

CANFIELD, Dr. J. H. Modern college library. *Educa.*, N; 27: 129-35.—Need for specialized libraries. *Ind.*, 15 N; 61: 1155-7.—Religion and public education. *Educat. Rev.*, D; 32: 453-60.—William Torrey Harris. *Rev. of Revs.*, Ag; 34: 164-6.

NELSON, C. A. Articles: Book, book-binding, book club, book collecting, book-plates, cataloguing and libraries in *Nelson's Encyclopedia*.—Article: Libraries in *The New Practical Reference Library*, Dixon-Hanson Co., Chicago.—Revision of articles: Bookbinding, book club and Elzevir, and additional titles (1903-1906) to all the bibliographies in *The New Internat. Encyclopedia*.—Index H. R. Meyer's Municipal ownership in Great Britain, p. 333-40.—Index (with A. B. Keep) Minutes of the Common Council of the city of New York, 1675-1776, vol. 8: 157-478.—Editor Bibliographical Society of America: Proceedings and papers. Vol. 1, part 1. New York, 106 p.—Coworker on *Annual Library Index*.—Editor University Bibliography in COLUMBIA UNIV. QUARTERLY, Mr; 8: 183-210, and in Columbia Univ. Catalogue, 1906-1907, p. 382-393.

Mathematics

FISKE, Prof. T. S. Functions of a complex variable. John Wiley and Sons. 51+99 p.—The theory of limits. *Proc. of the Dept. of Math. of the N. Y. High School Teachers Assoc.* 1905-1906. p. 10-14.—The College Entrance Examination Board. *The Evening Post*, 20 Je; p. 7.—Sixth annual report of the secretary of the College Entrance Examination Board. *Educat. Rev.*, O; 32: 275-314.

COLE, Prof. F. N. Secretary's reports of meetings of Amer. Math. Society. *Bull. Amer. Math. Soc.*, F-Ap-Je; 12: 223-34, 325-31, 423-34; N; 13: 55-71; *Science*, 19 Ja; n. s., 23: 101-2; 5 O; 24: 420-2.—Editor *Bull. Amer. Math. Soc.*, 12-13.

KEYSER, Prof. C. J. Mathematical emancipations: dimensionality and hyperspace. *The Monist*, Ja; 16: 65-83.—Concerning a self-reciprocal plane geometry (abstract). *Bull. Amer. Math. Soc.*, F; 12: 229-30.—On the linear complex of circle ranges in a plane (abstract). *Same*, Ap; 12: 327-8.—Concerning the bond uniting elements into a

space (abstract). *Same*, Je; 12: 431-2.

—Review of Mallock's Reconstruction of belief. *The Hibbert Journal*, Ap; 4: 680-6.—Reviews of Fine's A college algebra, Schmall's A first course in analytical geometry, and Cain's A brief course in the calculus. *Educat. Rev.*, Je; 32: 103-5.—Review of Kenyon's Claudel's Handbook of mathematics for engineers and engineering students. *Sch. of Mines Quart.*, N; 28: 130-1.—Concerning research in American universities. *The Bookman*, My; 23: 330-4. The same republished, COLUMBIA UNIV. QUART., S; 8: 400-8.—Editor-in-chief department of pure mathematics of *Enc. Americana* (forthcoming edition, 1907).—American editorial representative of *The Hibbert Journal*, 4.

KASNER, Prof. E. The geometry of differential elements of the second order with respect to the group of all point transformations. *Amer. Journ. of Math.*, Jl; 28: 203-13.—The trajectories of dynamics. *Trans. of the Amer. Math. Society*, Jl; 7: 401-24.—Associate editor, *Trans. Amer. Math. Soc.*, 7: 592 p. BUSSEY, Dr. W. H. Finite projective geometries. *Trans. Amer. Math. Soc.*, Ap; 7: 241-59.

Metallurgy

HOWE, Prof. Henry M. The Gayley dry air process. *Trans. of the Amer. Inst. of Mining Engin.*, F.—Relative corrosion of wrought iron and steel. *Trans. of the Amer. Soc. for Testing Materials*, Je.—Report of Committee F on heat treatment. *Same*, Je.—On the uniform nomenclature of iron and steel (with Prof. A. Sauveur). *Internat. Assoc. for Testing Materials*, Brussels Congress 1906.—Why do fluid slags cause slopping in the Bessemer converter? *Electrochem. and Metallurg. Industry*, Jl; 4: 258.—Piping and segregation in steel ingots. *Trans. Amer. Inst. Mining Engin.*, Jl.—An experimental double-muffle gas heating furnace. *Trans. Amer. Soc. for Testing Mater.*, Jl.—Specific heat of iron. *Electrochem. and Metallurg. Industry*, D; 4: 474.—Iron, steel and other alloys, second and revised edition. xviii+495 p. Albert Sauveur, Cambridge, Mass.—The roasting of the argentiferous cobalt nickel arsenides from Temiskaming, Ontario, Canada (with Drs. Campbell and C. W. Knight). *Trans. Amer. Inst. of Mining Engin.*, 38.—Piping and segregation in

ingots (with Professor Stoughton). *The Amer. Assoc. for the Adv. of Sci.*, 28 D.

STOUGHTON, Prof. Bradley. Foundry mixtures. An address 7 D; 1905, to the Newark Foundrymen's Association. —Review of Longmuir's Elementary practical metallurgy. *Engin. News*, 15 Mr. —Progress of the metallurgy of iron and steel in 1905. *Mineral Industry*, Vol. XIV for 1905. —Review of Professor Richards' Metallurgical calculations. *Engin. News*, 14 Je. —Review of McFarlane's The principles and practice of the iron and steel manufacture. *Same*, 6 Jl. —A discussion of the paper by Professor Albert Sauveur on the Constitution of the iron-carbon alloys. *Journ. Iron and Steel Inst.*, No. 2. —Foundry mixtures. An address 5 N; to the Pittsburg Foundrymen's Association. Published in *The Iron Trade Rev.*, 15 N; *The Iron Age*, 15 N; *The Industrial World*, 17 N; and *The Foundry*, Ja; 1907.

CAMPBELL, Dr. W. On the heat treatment of some high carbon steels. *Journ. Amer. Chem. Soc.* 28: 1304. —Application of metallography to opaque minerals. *School Mines Quart.*, 27: 414. —The microscopic examination of opaque minerals. *Economic Geology*, 1: 751. —The paragenesis of the cobalt nickel arsenides, etc. (with C. W. Knight). *Eng. and Min. Journ.*, 81: 1089. —A microscopic examination of nickelliferous pyrrhotites (with C. W. Knight). *Same*, 17 N. —A microscopic examination of the cobalt nickel arsenide and silver deposits of Temiskaming (with C. W. Knight). *Economic Geology*, 1: 767. —Ueber die Wärmebehandlung einiger hoch gekohlter Stähle. *Metallurgie*, 3: 741-81.

OFFERHAUS, Dr. C. The determination of carbon in ferrochrome and the Eimer carbon crucible. *Electrochem. and Metallurg. Industry*, F; 4: 59.

Mining

MUNROE, Prof. H. S. Summer school of surveying at Columbia University (discussion). *Proc. Soc. for the Promotion of Engin. Educat.*, 13: 78-82. —Requirements for graduation of mining engineers at Columbia University (discussion). *Same*, 13: 214-22.

PEELE, Prof. R. The best shape for a shaft. *Mining and Sci. Press*, 17 Mr; 92: 176-7. —Overwinding in hoisting

operations. *School of Mines Quart.*, Ja; 27: 118-28.

CRANE, Dr. W. R. Asphaltic coal in the Indian Territory. *Mines and Minerals*, Ja; 26: 252-6. —Mine drainage at Joplin. *Min. and Sci. Press*, 10 F; 92: 85-7. —Coal mining in the Indian Territory. *Eng. and Min. Journ.*, 7 Ap; 81: 658-60. —Head frames; Some notes on the principles of construction. *Mines and Minerals*, Ap; 26: 396-400. —Mining methods in the western interior coal fields. *Same*, Ag; 26: 26-7, and S; 26: 91-4. —Haulage in the iron mines of Alabama. *Min. and Sci. Press*, 25 Ag; 93: 235-8. —Drilling practice in the Lake Superior copper mines. *Eng. and Min. Journ.*, 8 S; 82: 438-9. —Drifting and stoping at Lake Superior. *Eng. and Min. Journ.*, 6 O; 82: 645-7. —Shaft sinking at the Wolverine Mine. *Same*, 20 O; 82: 741-3. —Ore breaking at Lake Superior. *Same*, 27 O; 82: 767-70. —Underground ore handling at Lake Superior. *Same*, 13 O; 82: 695-7. —Mine timbering at Lake Superior. *Same*, 10 N; 82: 867-8. —Report on lead and zinc in Kansas. *University Geol. Survey of Kansas*, 250 p.

Music

RÜBNER, Prof. C. Eight songs (for soprano or baritone, and piano): "My star," "Sorrowful evening," "Love's rhapsody," "Farewell," "Ask me not," "Solitude," "For tears my heart," "Long since." The Jno. Church Co., New York.

McWHOO, Prof. L. B. Music in college and secondary school. *Proc. Music Teachers Nat. Assoc.*, 1906: 70-5. —Recent progress in education in music. *The Musician*, S; 11: 427-8. —University education in music. *Music-lovers Calendar for 1907*. 2: 50-3.

Neurology

STAER, Prof. M. A. Intracranial lesions as sequelae of chronic purulent otitis media. *N. Y. Med. Record*, 10 Mr. —Bromide poisoning mistaken for paresis. *Monthly Cycl. of Pract. Med.*, My; 9: 193. —Cerebellar apoplexy. *N. Y. Med. Record*, 12 My. —The present status of brain surgery. *Journ. of the Amer. Med. Assoc.*, 22 S; 47: 926-31.

BAILEY, Dr. P. Diseases of the nervous system resulting from accident

and injury. D. Appleton & Co. xii + 627.

JELLIFFE, Dr. S. E. Report of dispensary clinic, Nervous and mental disease, 1905. *Journ. of Nerv. and Ment. Dis.*, Ap; 33.—The Dutch physician of New Amsterdam and his colleagues at home. *Med. Library and Historical Journ.*, Je; 4: 145-62.—Charaka and his times. *Proc. of the Charaka Club*, 2: 20-9.—Managing editor of the *Journal of Nervous and Mental Disease*.—Associate editor of the *New York Medical Journal*.—Two unusual epileptic histories. *Med. Record*, 31 Mr; 69: 340-3.—Aphasia, hemiparesis, and hemianaesthesia in migraine. *N. Y. Med. Journ.*, 6 Ja; 83: 33-36.

Obstetrics

CRAGIN, Prof. E. B. The treatment of puerperal infection. *Amer. Journ. of Obstet.*, Je; 53: 775-91.—A further contribution to the subject of pyelitis in pregnancy and the puerperium. *Surg. Gynec. and Obstet.*, My; 2: 551-2.—The technique at the Sloane Maternity Hospital. *Surg. Gynec. and Obstet.*, My; 2: 569-71.

VOORHEES, Dr. J. D. The etiology of puerperal sepsis. *Am. Journ. of Obstet.*, Je; 53: 753-70.

Ophthalmology

KNAPP, Prof. A. Optic neuritis after injury or disease of the anterior half of the eye-ball. *Trans. American Ophthalm. Soc.*—Sudden blindness following suppurative conditions about the eye-ball. *Arch. Ophthalmol.*; 35.—Posterior sclerotomy as a preliminary to iridectomy in acute glaucoma. *Same*; 35.—Two cases of osteoma of the orbit successfully treated by operation. *Same*; 35.—Primary cavernous sinus thrombosis secondary to osteomyelitis of the petrous pyramid. *Arch. Otolaryng.*; 35.—Infective sinus thrombosis: the varieties of general infection and treatment. *Same*; 35.—What cases of chronic purulent otitis require the radical operation. *Same*; 35.—Report of a fatal case of cerebellar abscess: remarks on the operative treatment. *Trans. American Otolaryng. Soc.*

HOLDEN, Dr. W. A. Report of cases of polio-encephalitis superior. *Trans. of Amer. Ophthalmol. Soc.*, 1906: 220-225.—A case of microphthalmus with

upper-lid cyst (with Dr. Charles H. May). *Arch. of Ophthalmol.*, 35: 424-7. *Same*, *Trans. of Amer. Ophthalmol. Soc.*, 1906.

Oriental Languages—Indo-Iranian

JACKSON, Prof. A. V. W. Zoroastrianism and the resemblances between it and Christianity. *The Biblical World*, My; 27: 335-43.—Textual notes on the Old Persian inscriptions. *Journ. of the Amer. Oriental Soc.*, 27: 190-4.—A religion nearly three thousand years old. The so-called Persian fire-worshippers of Yezd. *The Century*, S; 72: 691-703.—Persia past and present, a book of travel and research. The Macmillan Co. 32 + 472 p.—Some additional data on Zoroaster. *Orientalische Studien*, My; 27: 335-43.—Textual notes on *dien*, 2: 1031-8. Giessen, 1906.—Editor of A history of India, in 9 vols. The Grolier Society. Vols. 1-4.

Oriental Languages—Semitic

GOTTHEIL, Prof. R. J. H. A selection from the Syriac Julian Romance, edited with a complete glossary in English and German [*Semitic Study Series*, No. vii]. Leiden, E. J. Brill. xii + 100 p.—The dating of their manuscripts by the Samaritans. *Journ. of Biblical Lit.*, 25: 29-48, ill.—Bible Mss. in the Roman synagogues. *Zeitschr. für Hebräische Bibliographie*, 9: 177-84.—Bibliography of the pamphlets dealing with Joseph Sues Oppenheimer. *Same*, 10: 106-13.—Hizzib Yad. *Zeitschr. f. d. alttest. Wissenschaft*, 27: 277-80.—Al-Azhar the brilliant: The spiritual home of Islam. *Bookman*, 24: 500-11, ill.

PRINCE, Prof. J. D. The God-name Ninib. *Journ. of Bibl. Lit.*, 24: 54-7.—Notes on Akkad. *Same*, 25: 55-7.—Materials for a Sumerian lexicon, part II, containing the letters G-M. p. 110-248. J. C. Hinrichs'sche Buchhandlung, Leipzig.

LAU, Dr. R. J. Old Babylonian temple records. Columbia University Press. xi + 89 + 41 p. 35 pl.

Otology

DIXON, Dr. G. S. On the localization of foreign bodies in the eye and orbit. *N. Y. Eye and Ear Infirmary Rep.*, Ja; 12: 12-25.—Report of autopsy and

pathological findings in a case of cerebellar abscess after radical operation for chronic purulent otitis media. *Trans. Amer. Otol. Soc.*, Je; 10: 282-8.

Pathology

PRUDEN, Prof. T. M. On the great American plateau. G. P. Putnam's Sons, 243 p.—Clean air. *Med. Record*, 3 F; 69: 165-174.

STRONG, Dr. O. S. The mode of connection of the medullated nerve fiber with its cell body. *Journ. of Comp. Neurol. and Psychol.*, N; 16: 397-401.

OERTEL, Dr. H. A further contribution to the knowledge of multiple non-inflammatory necrosis of the liver with jaundice (Hepar necroticum cum ictero), and to the knowledge of cell degeneration and cytolysis in general. *Journ. of Exper. Med.*, Ja; 8: 103-19.—Report of the pathological department of the City Hospital for the year 1905. Rep. of dept. of public charities of the City of New York for 1905: 121-6.

VOGEL, Dr. K. M. Editorials, reviews, abstracts, and translations as assistant editor of the *Medical Record*. 69: 1-1088; 70: 1-1060.

Pharmacology, Materia Medica and Therapeutics

HERTER, Prof. C. A. The production of methyl mercaptan by fecal bacteria grown on a peptone medium. *Journ. Biol. Chem.*, Mr; 1: 421-4.—On a relation between skatol and the dimethylamidobenzaldehyde (para) reaction of the urine. *Journ. Biol. Chem.*, Ja; 1: 251-6.—A method for the quantitative determination of indol (with Miss M. L. Foster). *Same*, Ja; 1: 257-61.—On gas production by fecal bacteria grown on sugar bouillon (with H. C. Ward). *Same*, Mr; 1: 415-9.—On bacterial processes in the intestinal tract in some cases of advanced anaemia, with especial reference to infection with *B. aerogenes capsulatus* (*B. Welchii*). *Same*, Ag; 2: 1-70.—On the separation of indol from skatol and their quantitative determination (with Miss M. L. Foster). *Same*, O; 2: 267-71.—The late Dr. George A. Spalding. *N. Y. Med. Journ.*, 20 O; 84: 819.—Character of the bacterial flora of carnivorous and of herbivorous animals. *Science*, n. s., 24: 859.

BASTEDO, Dr. W. A. Post-operative

gastric paralysis—acute dilatation of the stomach. *Med. Record*, 10 N; 69: 733-5.

Pharmacy (College of)

RUSBY, Prof. H. R. The wild vegetable foods of the United States. *Country Life in America*. Monthly, Ap-N; incl., 64 ill.—The wild grains and nuts of the United States. *Journ. N. Y. Bot. Garden*, D.—Observations in economic botany made at Oscoda, Mich. *Same*, S; 211-3.—Report of the curator of the economic collections of the N. Y. Bot. Garden for 1905. *Bull. N. Y. Bot. Garden*, F; 5: 42-43.—A floating orchid (ill.). *Journ. N. Y. Bot. Garden*, Ap; 112-15.—A historical sketch of the development of botany in New York. *Torreya*, Je; 101-11, and Jl; 133-45.—Annual report of the dean of the department of pharmacy, Columbia University. *Annual Reports of Columbia University* (1906).—Is Missouri so very bad? *Pharmaceutical Era*, 25 O; 385.—Missouri was specified by name. *Same*, 8 N; 431.—A last word of reply to Prof. Wall. *Same*, 22 N; 477.—Aggression and libel suits. *Same*, 18 Ja; 47.—An erroneous statement. *Bull. of Pharmacy*, N; 475.—Recent progress in pharmaceutical education and legislation. COLUMBIA UNIV. QUARTERLY, D; 9: 26-9.

COBLENTZ, Prof. V. Pharmaceutical and medical chemistry, Sadtler and Coblenz. The J. B. Lippincott Co., Philadelphia. 14 + 750 p.—Inorganic chemicals of the U. S. Pharmacopoeia. *Amer. Journ. Pharmacy*, No. 7 and 8, 1906.—Detection of denaturated spirits in galenicals. *The Apothecary*, Boston, D.—Newer synthetic remedies, 12 monthly articles in *Same*.

Philosophy and Psychology

CATTELL, Prof. J. McKeen. American men of science, a biographical directory. The Science Press. vii + 364 p.—University control. *Science*, n. s., 23 Mr; 24: 475-77.—A statistical study of American men of science—The Selection of a group of one thousand scientific men. *Science*, n. s., 23 N; 24: 658-65.—The measurement of scientific merit. *Same*, 30 N; 24: 699-707.—The distribution of American men of science. *Same*, 7 D; 24: 732-42.—Editor of *Science*, *The Popular Science Monthly*, and *The Library of Phi-*

losophy, Psychology and Scientific Methods.

WOODBRIDGE, Prof. F. J. E. The problem of consciousness. In *Studies in philosophy and psychology*. Houghton, Mifflin & Co. 137-166 p.—Review of Santayana's *Reason in science*. *N. Y. Evening Post*, 10 Mr.—Review of Hight's *Unity of will*. *Same*, 23 Je.—Review of Lectures on the method of science. *Journ. Phil., Psych. and Sci. Methods*, 6 D; 3: 692-5.—Editor of *The Archives of Philosophy*, and (with Dr. Bush) of *The Journal of Philosophy, Psychology and Scientific Methods*.

FULLERTON, Prof. G. S. An introduction to philosophy. The Macmillan Co. 14 + 322 p.

DEWEY, Prof. John. The school and the child, being selections from educational essays (edited by J. J. Findlay). Blackie & Son. 128 p.—Beliefs and realities. *Philosoph. Rev.*, Mr; 15: 113-29.—Experience and objective idealism. *Same*, S; 15: 465-81.—The experimental theory of knowledge. *Mind*, n. s., JI; 15: 293-307.—Reality as experience. *Journ. Phil., Psych. and Sci. Methods*, 10 My; 3: 253-7.—The terms 'conscious' and 'consciousness.' *Same*, 18 Ja; 3: 39-41.—Culture and industry in education. *The Educat. Bi-Monthly*, O; 1: 1-9.

WOODWORTH, Prof. R. S. Psychiatry and experimental psychology. *Amer. Journ. Insanity*, JI; 63: 27-37.—The cause of a voluntary movement. In *Studies in philosophy and psychology*, a commemorative volume by former students of Charles Edward Garman. Houghton, Mifflin & Co., p. 351-392.—Imageless thought. *Journ. Philos., Psychol. and Sci. Methods*, 20 D; 3: 701-8.—Review of Schultz's *Die Farbeempfindungen der Hellenen*. *Same*, 4 Ja; 3: 21-5.—Reports of section of anthropology and psychology of the N. Y. Academy of Sciences. *Same*, 4 Ja; 3: 16-21; 10 My; 3: 267-71; 21 Je; 3: 351-7.—Editor, *Archives of Psychology*.

MONTAGUE, Dr. W. P. The meaning of identity, similarity and nonentity: a criticism of Mr. Russell's logical puzzles. *Journ. Phil., Psych. and Sci. Methods*, 1 Mr; 3: 127-31.—On the nature of induction. *Same*, 24 My; 3: 281-6.

PITKIN, W. B. Review of Melli's *La filosofia di Schopenhauer*. *Journ. Phil.*,

Psych. and Sci. Methods, 18 Ja; 3: 47-8.

—Why solipsism is rejected. *Same*, 21 Je; 3: 344-50.—Review of Porcena's *Che cos' è il bello*. *Same*, 2 Ag; 3: 442-4.—The relation between the act and the object of belief. *Same*, 13 S; 3: 505-11.—Review of Virgil's *Il sentimento imperialista*. *Same*, 27 S; 3: 557-8.—A problem of evidence in radical empiricism. *Same*, 22 N; 3: 645-51.—Review of Arnold's *Psychology applied to legal evidence*. *Same*, 20 D; 3: 718-19.—The self-transcendency of knowledge. *Philosoph. Rev.*, Ja; 15: 39-58.—Review of Binet's *L'âme et le corps*. *Same*, JI; 15: 430-4.—Review of Landry's *Principes de moral rationnelle*. *Same*, S; 15: 547-9.—Continuity and number. *Same*, N; 15: 597-605.—Review of Stapfer's *Questions esthétiques et religieuses*. *Same*, N; 15: 661.—Review of Arreat's *Art et psychologie individuelle*. *Same*, N; 15: 662.—Reasons for the slight esthetic value of the 'lower senses.' *Psycholog. Rev.*, N; 13: 363-77.—The intention and reference of the noetic psychosis. *Philos. Rev.*, S; 15: 511-15.

MILLER, Dr. D. S. Review of Fullerton's *System of metaphysics*. *Mind*, n. s., Ap; 15: 230-40.

BUSH, Dr. W. T. Review of Bonfiglioli's *Tertulliano e la filosofia pagana* and *La psicologia di Tertulliano*. *Journ. Phil., Psych. and Sci. Methods*, 1 Mr; 3: 131-4.—Review of Del Vecchio's *I presupposti filosofici della nozione del diritto* and of Salvadori's *Das Naturrecht und der Entwicklungsgedanke*. *Same*, 24 My; 3: 299-301.—Editor (with Professor Woodbridge) of *The Journal of Philosophy, Psychology and Scientific Methods*.

HENMON, Dr. Vivian A. C. The detection of color blindness. *Journ. Philos., Psychol. and Sci. Methods*, 21 Je; 3: 341-4.—The time of perception as a measure of differences in sensations. *Archives Philos., Psychol. and Sci. Methods*, JI; 1: No. 8. 75 p.—The fourteenth annual meeting of the American Psychological Association. *Journ. Philos., Psychol. and Sci. Methods*, 15 Mr; 3: 151-61.

TAWNEY, Prof. G. A. The nature of consistency. *Journ. Phil., Psych. and Sci. Methods*, 1 Mr; 3: 113-23.—Two types of consistency. *Same*, 16 Ag; 3: 457-62.—Review of Kleinpeter's *Die*

Erkenntnistheorie der Naturforschung der Gegenwart. *Same*, 6 D; 3: 687-91.
—Fundamental reality from the point of view of psychology. *Am. Journ. of Theol.*, JI; 10: 517-29.

BROWN, Dr. H. C. Review of Keyser's Mathematical emancipations. *Journ. Phil., Psych. and Sci. Methods*, 15 F; 3: 106-7.—Review of Russell's Some difficulties in the theory of transfinite numbers and order types. *Same*, 5 JI; 3: 388-90.—Review of Lachelier's La proposition et le syllogisme. *Same*, 30 Ag; 3: 502.—Review of Pieri's La compatibilité des axiomes de l'arithmétique. *Same*, 13 S; 3: 530.

RUEDIGER, W. C. How to study. *The Inter-Mountain Educator*, Ja; 1: 7-9; and F; 1: 158-61.—Aspects of the professional work in state normal schools. *Education*, 27: 174-9.

WELLS, Dr. F. Lyman. Linguistic lapses, with especial reference to the perception of linguistic sounds. *Archives Philos., Psychol. and Sci. Methods*, Je; 1: No. 6. 110 p.—Linguistic standards. *Journ. Philos., Psychol. and Sci. Methods*, 2 Ag; 3: 431-6.—Linguistic ability and intellectual efficiency. *Same*, 6 D; 3: 680-7.

Physical Education

MEYLAN, Prof. G. L. The dangers of a sedentary life. *Internat. Committee*. p. 4.—Effects of muscular exercise on the heart. *The Journ. of the Med. Soc. of N. J.*, My; 11: 332-5.—The place of physical education in the college and university. *Amer. Phys. Educat. Rev.*, Je; 11: 75-83.—Relation of athletics to longevity. *Amer. Gymnasia*, Ag; 2: 261.—Progress in physical training. *Same*, S; 2: 2-3.—Review of McCurdy's Bibliography of physical training. *Science*, 20 Ap; n. s., 23: 626-7.

Physics

HALLOCK, Prof. W. Outlines of the evolution of weights and measures and the metric system (with H. T. Wade). The Macmillan Co. 304 p., ill.

NICHOLS, Prof. E. F. The pressure due to radiation: lecture abstract. *Proc. Roy. Inst. Great Britain*, 1906; 1-4.—Die Möglichkeit einer durch zentrifugale Beschleunigung erzeugten electromotorischen Kraft. *Phys. Zeitsch.*, 7: 640-2.

TROWBRIDGE, C. C. Afterglow produced by the electrodeless discharge,

abstract. *The Phys. Rev.*, Je; 23: 410.

—Reports of Sect. of Astron., Physics and Chem. N. Y. Acad. Sci. *Science*, n. s., 21: 579; 664-5; 22: 16-8.—On the interlocking of emarginate primary feathers in flight. *Amer. Journ. of Sci.*, F; 21: 145-69.—The duration of afterglow produced by the electrodeless ring discharge. *The Phys. Rev.*, 4 O; 23: 274-307.

WILLIAMS, Dr. S. R. The reflection of cathode rays from thin metallic films. *Phys. Rev.*, 23 JI; 23.

Physiological Chemistry

(Biological Chemistry)

GIES, Prof. William J. Biochemical notes: Laboratory work. Published by the author. First part (F;) p. 1-42; second part (Mr;) p. 43-102.—The influence of aluminium ions on lupin seedlings (with H. D. House). *Proc. Amer. Physiol. Soc.*, D; (1905); (1) *Amer. Journ. Physiol.*, F; 15: xix-xx; also, *Proc. Sect. Biol. Chem. of the Amer. Chem. Soc.* in affiliation with section C of the Amer. Assoc. Adv. Science, D; (1905); (2) *Science*, Mr; n. s., 23: 333 and (3) *Proc. Amer. Assoc. Adv. Science*, 55: 328.—On the composition of nasal mucous membrane (with Bert Russell). *Same*: (1) xxiii-xxiv; (2) 336-7; (3) 332.—Secretary's reports of the proceedings of section K (physiology and experimental medicine) of the Amer. Assoc. Adv. Science, New Orleans, Jan. 1, 1906. *Science*, Mr; n. s., 23: 361-85, 401-15; pamphlet, S; p. 1-38; *Proc. Amer. Assoc. Adv. Science*, 55: 507-39.—Ion protein compounds. (1) *Proc. Soc. Exp. Biol. and Med.*, S; 3: 74-5; (2) *Science*, Je; n. s., 23: 980; (3) *Amer. Med.*, Je; n. s., 1: 158-9.—Some facts showing that the brain educts termed phrenosin (1874) and cerebrin (1900) were practically the same. *Same*: (1) 76-77; (2) 980; (3) 159-60.—A simple electrical annunciator for use in metabolism experiments, and in connection with filtration, distillation and similar operations (with W. H. Welker). *Same*: (1) 77-78; (2) 980-1; (3) 160.—Mucoid salts. *Proc. Sect. Path. and Physiol. of the Amer. Med. Assoc. Journ. Amer. Med. Assoc.*, Ag; 47: 560.—Dissociable compounds of mucoids and other proteins. *Proc. Amer. Chem. Soc., Science*, Ag; n. s., 24: 245.—Some remarks on the proposition that Thudichum's phrenosin and

Thierfelder's cerabron were identical. *Journ. Biol. Chem.*, Ag; 2: 159-82.—Further observations of the effects of ions on the activity of enzymes (with Wm. N. Berg). *Proc. Soc. Exp. Biol. Med.*, D; 4: 17-19; *Science*, D; n. s., 24: 768; *Amer. Med.*, D; n. s., 1: 555.—Proceedings of the Society for Experimental Biology and Medicine. Published by the Society. Ed. by the secretary. Vol. 3, 94 pages, S; No. 1, Vol. 4; 20 pages, D.—Secretary's reports of the Proceedings of the Society for Experimental Biology and Medicine. *Science*, Ja; n. s., 23: 109-11; Ap; 23: 662-65; Je; 23: 846-48, 979-81; D; 24: 763-68; *Amer. Med.*, Ja; 11: 105-10; Ap; n. s., 1: 33-43; Je; n. s., 1: 152-161; D; n. s., 1: 552-5.

FOSTER, Dr. N. B. Caisson disease. Editorial. *Evening Post*, 27 Je.—The real prevention of disease. Editorial. *Same*, 8 N.—The influence of water on gastric secretion and the chemical affinity of mucus for HCl in the stomach (with A. V. S. Lambert). *Proc. Soc. Exp. Biol. and Med.*, D; 4: 13; *Science*, D; n. s., 24: 767; *Amer. Med.*, D; n. s., 1: 554-5.

MEYER, Dr. G. M. The biological effects of radium. *Amer. Chem. Soc.*, Proc. N. Y. section. *Science*, Ja; n. s., 23: 141.—Effects of intravenous injections of radium bromid (with R. Burton-Opitz). *Proc. Sect. Biol. Chem. of the Amer. Chem. Soc.* in affiliation with section C of the *Amer. Assoc. Adv. Science*, D (1905); (1) *Science*, Mr; n. s., 23: 332; (2) *Proc. Amer. Assoc. Adv. Science*, 55: 328; (3) *Journ. Exp. Med.*, Mr; 8: 245-51.—The radioactivity of the organs of dogs after administration of radium bromid. *Same*: (1) 332; (2) 328.—About twenty-five reviews of American biochemical researches. *Biochemisches Centralblatt*; 4 and 5.—A few abstracts of American biochemical literature. *Hygienisches Centralblatt*; 1.

BERG, William N. Experiments to determine the influence of radium bromid on protein metabolism in dogs (with William H. Welker). *Proc. Sect. Biol. Chem. of the Amer. Chem. Soc.* in affiliation with section C of the *Amer. Assoc. Adv. Science*, D; (1905). *Science*, Mr; n. s., 23: 333 and *Proc. Amer. Assoc. Adv. Science*, 55: 327-8.—Experiments to determine the influ-

ence of the bromids of barium and radium on protein metabolism (with William H. Welker). *Journ. Biol. Chem.*, Mr; 1: 371-412.—The relation between the concentration of hydroxyl ions and the rate of tryptic digestion in dilute solutions of various bases. *Proc. Sect. Biol. Chem. of the Amer. Chem. Soc.* in affiliation with section C of the *Amer. Assoc. Adv. Science*, D; (1905). *Science*, Mr; n. s., 23: 335 and *Proc. Amer. Assoc. Adv. Science*, 55: 331.—Further observations of the effects of ions on the activity of enzymes (with William J. Gies). *Proc. Soc. Exp. Biol. and Med.*, D; 4: 17-19; *Science*, D; n. s., 24: 768; *Amer. Med.*, D; n. s., 1: 555.

WELKER, Wm. H. Report on City water supply to the Board of Health. *Annual Report (1905) of the Board of Health of the City of Allentown, Pa.*, F; 4-6 and 14-16.—Experiments to determine the influence of radium bromid on protein metabolism in dogs (with William N. Berg). *Proc. Sect. Biol. Chem. of the Amer. Chem. Soc.* in affiliation with section C of the *Amer. Assoc. Adv. Science*, D (1905). *Science*, Mr; n. s., 23: 333 and *Proc. Amer. Assoc. Adv. Science*, 55: 327-8.—Experiments to determine the influence of the bromids of barium and radium on protein metabolism (with William N. Berg). *Journ. Biol. Chem.*, Mr; 1: 371-412.—A simple electrical annunciator for use in metabolism experiments, and in connection with filtration, distillation and similar operations (with Wm. J. Gies). *Proc. Soc. Exp. Biol. and Med.*, S; 3: 77-8; *Science*, Je; n. s., 23: 980-1; *Amer. Med.*, Je; n. s., 1: 160.

SALANT, Dr. William. Studies on the toxicity of bile. II. The toxic effects of bile upon the central nervous system and the elimination of strychnin through the bile in nephrectomized animals (with S. J. Meltzer). *Journ. of Exp. Med.*, Ja; 8: 127-67.—Further observations on the effect of alcohol on the secretion of bile. *Science*, Ja; n. s., 23: 110; *Proc. Soc. Exp. Biol. and Med.*, S; 3: 34-6; *Amer. Med.*, Ja; 11: 106-7.—The effect of alcohol on the secretion of bile. *Proc. Sect. Biol. Chem. of the Amer. Chem. Soc.* in affiliation with section C of the *Amer. Assoc. Adv. Science*, D (1905). *Science*, Mr; n. s., 23: 335; *Proc. Amer. Assoc. Adv. Science*, 55: 330; *Amer. Journ. Physiol.*,

D; 17: 408-28.—The effect of alcohol on hepatic glycogenesis. (1) *Proc. Soc. Exp. Biol. and Med.*, S; 3: 58-60; (2) *Amer. Med.*, Ap; n. s., 1: 41-43; (3) *Science*, Ap; n. s., 23: 665.—Some observations on the presence of albumin in the bile. *Same*, (1) 78-80; (2) Je: 160-161; (3) Je: 981.—The pathology of bile. *Proc. Sect. Path. and Physiol. of the Amer. Med. Assoc. Journ. Amer. Med. Assoc.*, S; 47: 765-7.—Further observations on the influence of alcohol on the metabolism of hepatic glycogen. *Same*, N; 47: 1467-70.

Physiology

LEE, Prof. F. S. Some of the chemical phenomena of muscle fatigue. *Proc. of the Am. Physiol. Soc. Amer. Journ. of Physiol.*, F; 15: xxxi.—Acid and fatigue. *Proc. of the N. Y. Acad. of Sci.*, section of biology. *Science*, Mr; n. s., 23: 504.—What medical subjects can be taught efficiently in the literary school. *Proc. of the Assoc. of Amer. Medical Colleges; 16th annual meeting, Pittsburg.* *Same*. N. Y. *Med. Journ.*, My; 83: 910-13. *Same* (abstract). *Journ. of the Amer. Med. Assoc.*, Mr; 46: 982.—Fatigue. *Harvey Lectures*, Vol. I. J. B. Lippincott Co., p. 169-94. *Same*. *Journ. of the Amer. Med. Assoc.*, My; 46: 1491-1500.—The causes of fatigue in certain pathological states. *Trans. of the British Med. Assoc., Toronto.* *Same*. *British Med. Journ.*

BURTON-OPITZ, Prof. R. The effect of changes in temperature upon the viscosity of the "living" blood. *Journ. Exp. Med.*, Ja; 8: 1-5.—Effects of intravenous injections of radium bromide. *Journ. Exp. Med.*, Mr; 8: 245-51.—The effect of intravenous injection of solutions of dextrose upon the viscosity of the blood. *Same*, Mr; 8: 240-4.—Weitere Studien über die Viskosität des Blutes. *Arch. f. d. ges. Physiol.*, 112: 1-5.—A new recording stromuhr. *Proc. Soc. f. Exp. Biol. and Med.*, 19 D.—The influence of the red corpuscles upon the viscosity of the blood. *Same*.—The influence of gelatin upon the viscosity of the blood. *Same*.—121 abstracts of current American literature in the *Biochemisches Centralblatt*, Vol. IV; 40 abstracts in the *Hygienisches Centralblatt*, Vol. I; and 95 abstracts in the *Biophysikalisches Centralblatt*, Vol. I.

Practice of Medicine

JAMES, Prof. W. B. Ramazzini on the diseases of learned men. *Proc. of the Charaka Club*, 2: 113-30.—The environment in therapeutics from the standpoint of physiology. *Am. Journ. of Med. Sci.*, N; 132: 663-79.

THACHER, Prof. J. S. Fever in chronic endocarditis. *Am. Journ. of Med. Sci.*, Ja; 131: 29-45.

HART, Dr. T. S. The rational treatment of diabetes mellitus. *N. Y. Med. Journ.*, 15 S; 84: 533-8.—The acetone bodies: their occurrence and significance in diabetes and other conditions. *Am. Journ. of Med. Sci.*, Ag; 132: 220-31.

POTTER, Dr. N. B. Value of Virchow's smooth atrophy of the base of the tongue in the diagnosis of syphilis. *Boston Med. and Surg. Journ.*, 8 Mr; 154: 260-3.—Review of the work upon the opsonic index (Wright and Douglas) in tuberculosis (with Drs. Ditman and Bradley). *Am. Journ. of Med. Sci.*, Ag; 132: 186-202.—Cardiac hypertrophy as observed in chronic nephritis. *Journ. of Am. Med. Assoc.*, 27 O; 47: 1354-7.—Opsonic index in medicine (with Drs. Ditman and Bradley). *Journ. of Amer. Med. Assoc.*, 24 N; 47: 1722-5. *Same*, 1 D; 47: 1793-1800.

BOVAIRD, Dr. D., Jr. Sporadic trichinosis. *N. Y. Med. Journ.*, 10 and 19 Mr; 83: 436-40 and 486-93.—The portals of entry and sources of infection in the tuberculosis of children. *N. Y. State Journ. of Med.*, S; 6: 349-53.—The weights of the viscera in infancy and childhood, with special reference to the weight of the thymus gland. *Arch. of Pediat.*, S; 23: 641-68.

Romance Languages

COHN, Prof. Adolphe. Review of Chatfield-Taylor's Molière: A biography. *The Bookman*, D; 24: 355-8.

PAGE, Prof. C. H. Associate editor of *Poet Lore*.—Associate editor of *The Pathfinder*.—Co-editor of Putnam's *French Classics for English Readers*.—Love's warning—Love's answer. *The Metropolitan Magazine*, Ja; 23: 473.—To Hamlet. Translated from the French of Adolphe Cohn. *The Conservator*, F; 16: 181.—Christdämmerung. *The Independent*, 29 Mr; 60: 739.—Nicolette. *Taylor's Magazine*, Ap; 3: 12.—A fable of minor poets. *Book News*, Je; 24:

718.—Of love: Songs from a drama. *The Independent*, 19 JI; 61: 134.—Resurgam. *Book News*, JI; 24: 759.—Apart. *The Metropolitan Magazine*, Ag; 24: 612.—Musa Consolatrix: From the Italian of Lia. *Book News*, Ag; 24: 847.—To future poets (from the French of Sully Prudhomme). *The Pathfinder*, Ag; 1, no. 2: 19.—Poet's love—Woman's love. *The Craftsman*, Ag; 10: 604.—Your loss shall be gain. *The Metropolitan Magazine*, S; 24: 736.—The singer to her audience. *The Pacific Monthly*, S; 16: 300.—Violinist. *Same*, S; 16: 408.—The prayer of the poet. *Poet Lore*, S; 17: 3-5.—Spring and autumn. *The Overland Monthly*, S; 48: 138.—Truth. *Same*, S; 48: 156.—Song for music. *The Cosmopolitan*, O; 41: 590.—At London Tower. *The Gray Goose*, O; 17: 211.—Faith (from the French of Victor Hugo). *Pearson's Magazine*, O; 16: 414.—Seasunset, in the harbor of Honolulu. *The Overland Monthly*, O; 48: 228.—Inscription for a volume of Ronsard. *Book News*, O; 25: 129.—Ambition. *Lippincott's Magazine*, N; 78: 656.—Presence. *The Metropolitan Magazine*, N; 25: 211.—Forest silence. *Ainslee's*, N; 18: 76.—A soldier's song. *The Sunset Magazine*, N; 18: 49.—The pessimist. *Lippincott's Magazine*, N; 78: 618.—For a reunion. *The Overland Monthly*, D; 48: 505.—By the grave of Shelley. Translated from the Italian of Giosuè Carducci. *The Independent*, 13 D; 61: 1375-6.—Glory of winter. *Appleton's Magazine*, D; 8: 736.—Literature of the year 1906 in France. *Poet Lore*, D; 17: 197-215.

FITZ-GERALD, Dr. J. D. Galdós' Doña Perfecta. *Modern Lang. Notes*, Nov; 21: 223-4.—Review of Galdós' Doña Perfecta. Edited by Edwin S. Lewis. *Educator*, My; 31: 534.—Review of Alarcón's El Niño de la bola. Edited by Rudolph Schevill. *Same*, My; 31: 534-535.

GERIG, J. L. Lettre de Guillaume de Catel à Peirese, *Annales du Midi*; 18: 351-7.—Deux lettres inédites de Jean de Boyssonné. *Revue de la Renaissance*, D; 6.—The archives of southern France. *Modern Lang. Notes*, D.

Surgery

BLAKE, Prof. J. A. The use of magnesium sulphate in the production of

anesthesia and in the treatment of tetanus. *Surg. Gynec. and Obstet.*, My; 2: 541-50.—The treatment of femoral hernia. *Same*, My; 2: 566-7.—The treatment of tetanus by magnesium sulphate. *Annals of Surg.*, S.—Indications for surgical intervention in diseases of the stomach. *N. Y. Med. Journ.*, 27 O; 84: 821-4.—Two-way abdominal irrigator. *Surg. Gynec. and Obstet.*, My; 2: 567-8.—Gall-stone forceps. *Same*, My; 2: 569.

BREWER, Prof. G. E. The surgical treatment of chronic dyspepsia. *N. Y. Med. Journ.*, 19 My; 83: 1019-24.—Some observations upon acute unilateral septic infarcts of the kidney. *Surg. Gynec. and Obstet.*, My; 2: 485-97.—The surgery of the larynx and trachea: the thorax, pleura and lung. Keen's System of surgery. W. B. Saunders Co.

HARTLEY, Prof. F. The surgery of the brain. Read before the County Society, Rochester, N. Y., May.

ABBE, Dr. R. Explosion of a radium tube. *Med. Record*, 21 Ap; 69: 615-16.

—Radium in surgery. *Journ. of Amer. Med. Assoc.*, 21 JI; 47: 183-5.

COLEY, Dr. W. B. Late results of the treatment of inoperable sarcoma by the mixed toxins of erysipelas and bacillus prodigiosus. *Amer. Journ. of the Med. Sci.*, Mr; 131: 375-430.—The radical cure of femoral hernia. *Annals of Surg.*, O.

HOTCHKISS, Dr. L. W. The treatment of diffuse suppurative peritonitis, following appendicitis. *Annals of Surg.*, Ag.—Diagnosis and treatment of the acute infections of the gall bladder. *Med. Record*, 20 O; 70: 605-8.

DOWN, Dr. C. N. A few facts concerning cancer of the stomach. *N. Y. Med. Record*, 20 Ja; 69: 91-3.—The use of Wolfe grafts and tendon lengthening in treating cicatricial contractures. *Annals of Surg.*, Mr; 43: 278-87.—The diseases of the lymphatics. Bryant and Buck's American practice of surgery, 2: 525-78.

FOOTE, Dr. E. M. Annual review of abdominal surgery. *Progressive Medicine*, Je.

PECK, Dr. C. H. Operative treatment of cleft palate. *Annals of Surg.*, Ja; 43: 5-14.—Perforated gastric ulcer: generalized peritonitis. *Same*, Je; 43: 930-3.—Perineal prostatectomy. *Same*, 44: 616-18.—Multiple septic infarcts of kidney, nephrectomy. *Same*, 44: 622.

—Some considerations in the treatment of purulent appendicitis: a study of 36 cases. *Surg. Gynec. and Obstet.*, F; 2: 555-63.

TAYLOR, Dr. A. S. Results of facio-hypoglossal anastomosis for facial palsy (with L. P. Clark). *Journ. of Am. Med. Assoc.*, 24 Mr; 46: 856-62.—Results of surgical treatment brachial birth palsy. *Surg. Section Am. Med. Assoc.*, Boston, Je.—A dressing after hare-lip operation. *Journ. Am. Med. Assoc.*, 22 D; 47: 2091-2.

SCHMITT, Dr. A. E. Postural treatment of otitis media and mastoiditis. *Am. Journ. of Med. Sci.*, N; 132: 717-22.

HAWKES, Dr. F. A case of intrahepatic calculi. *Presb. Hospital Med. and Surg. Report*, 1906.

McWILLIAMS, Dr. C. A. Critical analysis of 186 operations on the liver and gall passages. *Presb. Hospital Med. and Surg. Report*, 1906.—Infections by the bacterium coli commune with particular reference to the urinary tract. *N. Y. Med. Record*, JI; 70: 7-13.

LAMBERT, Dr. A. V. S. A splint for the treatment of Colles's fracture (with Dr. E. H. Pool). *Surg. Gynec. and Obstet.*, My; 2: 571-3.

AYER, Dr. J. C. Enteric and mesenteric cysts, with report of an unusual case. *Am. Journ. Med. Sci.*, Ja; 131: 89-108.

MAURY, Dr. J. W. D. Observations upon a form of death resulting from certain operations on the duodenum and jejunum. *Surg. Gynec. and Obstet.*, My; 2: 502-9.

RUSSELL, Dr. J. I. Treatment of inguinal hernia, with special reference to the use of the rectus muscle. *Surg. Gynec. and Obstet.*, My; 2: 727-8.

Surgery, Orthopedic

WHITMAN, Dr. Royal. Further remarks on the abduction treatment of fracture of the neck of the femur. *Therapeutic Gazette*, 15 My; 10 p.—Nouvelles remarques sur la position d'abduction dans le traitement des fractures du col du femur. *Revue d'Orthopédie*, 1 S; 2 sér., 7: 385-96.

ERSTEIN, Dr. S. Anterior metatarsalgia and its treatment. *N. Y. Med. Journ.*, 26 My; 83: 1075-1077.

Zoology

WILSON, Prof. E. B. Studies on chromosomes, III. The sexual differ-

ences of the chromosome-groups in Hemiptera, with some considerations on the determination and inheritance of sex. *Journ. of Exper. Zool.*, F; 3: 1-40, 6 Figs.—A new theory of sex-production. (Review and critique of Hertwig Ueber das Problem der sexuellen Differenzierung.) *Science*, F; n. s., 23: 189-91.—The chromosomes in relation to the determination of sex in insects. *Proc. Soc. for Exp. Biol. and Med.*, S; 3: 19-23. (Reprinted from *Science*, O, 1905, n. s., 22: 564.)

DEAN, Prof. Bashford. Some embryological evidence as to the position of Chimera. *Comptes rendus du 6me Congrès Intern. de Zool.*, p 294-7.—Notice of Eugene G. Blackford. *Science*, n. s., 21: 272-3.—The question whether falcons when soaring interlock their primary wing feathers. *Same*, 22: 499-500.—Two letters of Dr. Darwin: the early date of his evolutionary writings. *Same*, 23: 986-7.—Notes on the living specimens of the Australian lung-fish, *Ceratodus forsteri*, in the Zoological Society's collection. *Proc. Zool. Soc. Lond.*, 1: 168-78, pl. ix, fig. 27.—Fossil fishes. *Ex Chapter xxii, Jordan's Guide to the study of fishes*, Vol. I, p. 422-8.—Chimeroid fishes and their development. *Carnegie Institution of Washington*. Publ. No. 32, 195 p., pl. xii, fig. 144.

CRAMPTON, Prof. H. E. The expedition to Tahiti. *Am. Mus. Journ.*, D; 6: 4.

CALKINS, Prof. G. N. Symposium on yellow fever. New Orleans, Jan. 1, 1906. The protozoan life-cycle. *Science*, 9 Mr; n. s., 23: 4 p.—Paramecium aurelia and Paramecium caudatum. Biological Studies by the pupils of William T. Sedgwick. Boston, June. p. 1-10.—Columbia University and field work in pure science. *COLUMBIA UNIVERSITY QUARTERLY*, Mr; 8: 123-9.—Fritz Schaudinn. *Science*, 1 Ag; n. s., 24: 1 p.—York Meeting of the British Association for the Advancement of Science. *Same*, S; 24: 2 p.—The protozoan life cycle. *Biol. Bull.*, 11: 229-44.—Life cycle of Cytoscytes variolae. Annual Pub. New Sydenham Soc. Oxford, 1906.—Pathogenic protozoa. *Pop. Sci. Mo.*, N; 68: 409-16.

MORGAN, Prof. T. H. The male and female eggs of phylloxerans of the hickories. *Biological Bulletin*, 10.—Are the germ cells of Mendelian hybrids "pure"?

Biologisches Centralblatt, 26.—Experiments with frogs' eggs, *Biological Bulletin*, 11.—The origin of the organ-forming materials of the frog's embryo. Same, 11.—The physiology of regeneration. *The Journ. of Exper Zoology*, 3.—Hydranth formation and polarity in Tubularia. Same, 3.

MCGREGOR, Dr. J. H. On *Mesosaurus brasiliensis* (nov. sp.) from the Permian of Brazil. *Report of the Brazilian Coal Commission*, 1906.

MEAD, C. S. Adaptive modifications of occipital condyles in mammalia. *American Naturalist*, 41; 40: 475-83.

GREGORY, W. K. *Prorosmarus alleni*, a new genus and species of walrus from the Upper Miocene of Yorktown, Virginia (with E. W. Berry). *Amer. Jour. Sci.*, Je; 21: 444-50.—Notes on a dissected porpoise. *Scientific American*, 13 S; 95: 188-90.—The hailstorm of June 23. *Science*, 27 Je; n. s., 24: 115-16.

MORRILL, C. V. Regeneration of certain structures in *Fundulus heteroclitus*. *Biolog. Bull.*, D; 12: 11-20.

C. ALEX. NELSON.

INDEX OF OFFICERS

| Page | Page | Page |
|---------------------------|-----------------------------|-----------------------------|
| Abbe, R. 239 | Cohn, A. 238 | Hervey, W. A. 228 |
| Adler, H. M. 223 | Cole, F. N. 231 | Hirst, G. 230 |
| Ayer, J. C. 240 | Coley, W. B. 239 | Hodge, R. M. 225 |
| Bailey, P. 232 | Cragin, E. B. 233 | Holden, W. A. 233 |
| Baker, F. T. 225 | Crampton, H. E. 240 | Holt, L. E. 223 |
| Baldwin, E. G. 225 | Crane, W. R. 232 | Hotchkiss, L. W. 239 |
| Bandelier, A. F. 220 | Crocker, F. B. 226 | Howe, H. M. 231 |
| Bastedo, W. A. 234 | Dean, B. 240 | Howland, J. 223 |
| Beard, C. A. 229 | Devine, E. T. 224 | Hutton, F. R. 226 |
| Berg, H. W. 223 | Dewey, J. 235 | Jackson, A. V. W. 233 |
| Berg, W. N. 237 | Dixon, G. S. 233 | Jackson, G. T. 223 |
| Berkey, C. P. 228 | Dowd, C. N. 239 | Jacobi, A. 223 |
| Bigelow, M. A. 225 | Egbert, J. C. 230 | Jacoby, H. 221 |
| Black, A. 226 | Epstein, S. 240 | James, W. B. 238 |
| Blake, J. A. 239 | Farnsworth, C. H. 225 | Jelliffe, S. E. 233 |
| Boas, F. 220 | Fiske, T. S. 231 | Jessup, D. S. D. 223 |
| Bogert, M. T. 222 | Fitz-Gerald, J. D. 239 | Kasner, E. 231 |
| Botsford, G. W. 229 | Foot, E. M. 239 | Kemp, J. F. 228 |
| Bovaird, D., Jr. 238 | Foster, N. B. 237 | Keppel, F. P. 220 |
| Brewer, G. E. 239 | Fullerton, G. S. 235 | Keyser, C. J. 231 |
| Brewster, W. T. 227 | Furst, C. 225 | Kinne, H. 225 |
| Britton, N. L. 221 | Gerig, J. L. 239 | Knapp, A. 233 |
| Brown, H. C. 236 | Giddings, F. H. 224 | Knapp, C. 230 |
| Burdick, F. M. 230 | Gies, W. J. 236 | Krapp, G. P. 228 |
| Burgess, J. W. 230 | Goodnow, F. J. 230 | La Fetra, L. E. 223 |
| Burr, W. H. 226 | Gottheil, R. J. H. 233 | Lambert, A. V. S. 240 |
| Burton-Opitz, R. 238 | Grabau, A. W. 228 | Lau, R. J. 233 |
| Bush, W. T. 235 | Gregory, W. K. 241 | Lawrence, W. W. 227 |
| Bussey, W. H. 231 | Haas, S. V. 223 | Lee, F. S. 238 |
| Butler, N. M. 220 | Hale, H. E. 220 | Lefferts, G. M. 229 |
| Calkins, G. N. 240 | Hallock, W. 236 | Lucke, C. E. 226 |
| Campbell, W. 232 | Hamlin, A. D. F. 221 | McConnell, R. H. 223 |
| Canfield, J. H. 231 | Hart, T. S. 238 | McGregor, J. H. 241 |
| Cardiff, I. D. 222 | Hartley, F. 239 | McWhood, L. B. 232 |
| Carpenter, G. R. 227 | Hawkes, F. 240 | McWilliams, C. A. 240 |
| Carpenter, W. H. 228 | Haworth, P. L. 229 | Mathews, F. S. 229 |
| Cattell, J. McK. 234 | Henmon, V. A. C. 235 | Matthews, Brander. 227 |
| Chambers, V. J. 223 | Heuser, F. W. J. 228 | Mauzy, J. W. D. 240 |
| Clark, J. B. 224 | Hermann, C. 224 | Mead, C. S. 241 |
| Coblentz, V. 234 | Herter, C. A. 234 | Mearns, F. S. 223 |

| Page | Page | Page |
|--------------------------|---------------------------|----------------------------|
| Meeker, H. D..... 229 | Prettyman, V..... 225 | Tawney, G. A..... 235 |
| Meyer, G. M..... 237 | Prince, J. D..... 233 | Taylor, A. S..... 240 |
| Meylan, G. L..... 236 | Prudden, T. M..... 234 | Taylor, H. C..... 229 |
| Miller, D. S..... 235 | Putnam, C. R. L..... 220 | Thacher, J. S..... 238 |
| Mitchell, S. A..... 221 | Rautenstrauch, W..... 226 | Thomas, C..... 228 |
| Monroe, P..... 225 | Reynolds, W. S..... 228 | Thorndike, A. H..... 227 |
| Montague, W. P..... 235 | Richards, C. R..... 225 | Thorndike, E. L..... 226 |
| Moore, H. L..... 224 | Robinson, J. H..... 229 | Tombo, R., Jr..... 228 |
| Moore, J. B..... 230 | Rübner, C..... 232 | Trent, W. P..... 227 |
| Morgan, J. L. R..... 222 | Ruediger, W. C..... 236 | Trowbridge, C. C..... 236 |
| Morgan, T. H..... 240 | Rusby, H. R..... 234 | Tucker, S. A..... 222 |
| Morrill, C. V..... 241 | Russell, J. E..... 224 | Underwood, L. M... 221 |
| Morrison, C. E..... 226 | Russell, J. I..... 240 | Van Arsdale, M. B... 226 |
| Munroé, H. S..... 232 | Salant, W..... 237 | Vogel, K. M..... 234 |
| Nelson, C. A..... 231 | Saville, M. H..... 220 | Voorhees, J. D..... 233 |
| Nichols, E. F..... 236 | Schmitt, A. E..... 240 | Wadsworth, A..... 221 |
| Norsworthy, N..... 225 | Schumacher, H. A... 224 | Welker, W. H..... 237 |
| Noyes, W..... 225 | Seager, H. R..... 224 | Wells, F. L..... 236 |
| Oastler, F. R..... 229 | Seligman, E. R. A... 224 | Whitman, R..... 240 |
| Oertel, H..... 234 | Shear, T. L..... 229 | Wile, I. S..... 223 |
| Offerhaus, C..... 232 | Sherman, H. C..... 222 | Williams, S. R..... 236 |
| Olcott, G. N..... 230 | Simkhovitch, V. G... 224 | Wilson, E. B..... 240 |
| Osgood, H. L..... 229 | Simpson, W. K..... 229 | Wissler, C..... 220 |
| Page, C. H..... 238 | Sloane, W. M..... 229 | Wood, F. C..... 223 |
| Parker, W. B..... 228 | Smith, D. E..... 225 | Woodbridge, F. J. E... 235 |
| Peck, C. H..... 239 | Smith, M..... 230 | Woodhull, J. F..... 226 |
| Peck, H. T..... 230 | Spingarn, J. E..... 223 | Woodworth, R. S... 235 |
| Peele, R..... 232 | Starr, M. A..... 232 | Woolman, M. S.... 226 |
| Periam, A..... 228 | Stone, W. S..... 229 | Woolson, I. H..... 226 |
| Pitkin, W. B..... 235 | Stoughton, B..... 232 | Zinasser, H..... 221 |
| Potter, N. B..... 238 | Strong, O. S..... 234 | |

GENERAL CATALOGUE
OF
OFFICERS AND ALUMNI

1754—1906

Price, \$2.00

Address: SECRETARY
COMMITTEE ON GENERAL CATALOGUE
COLUMBIA UNIVERSITY, NEW YORK

URETHRAL TRUISMS

NO. 1

By SIR HENRY THOMPSON

"Now, there is nothing that a patient appreciates so much as the easy passing of an instrument. This is a disagreeable operation, and if you pass it more easily than other persons, you will probably retain your patient as long as he requires assistance of that kind. If your instrument stops by getting into the lacuna magna at the outset, he infers you to be a bungler, and perhaps will not ask your services again."—*Diseases of the Urinary Organs* (1879) p. 31.

"K-Y" LUBRICATING JELLY

Spells "perfection in catheter lubrication." ANTISEPTIC—WATER-SOLUBLE—NON IRRITATING and contains NO formaldehyde.

It simplifies catheterization and helps to "retain your patient as long as he requires assistance of that kind."

In collapsible tubes.
Sample upon request.

VAN HORN & SAWTELL
NEW YORK, U.S.A. and LONDON, ENG.
20 East 42nd Street and 31-33 High Holborn

CATGUT "SAFETY"

Without a complete and ever-present sense of confidence in his catgut, the operating surgeon works at a disadvantage. His "margin of safety" must always be considered in relation to

1. Sterility
2. Tensile Strength
3. Absorbability

Neither Tetanus nor Anthrax can possibly withstand the perfect sterilization to which the "Van Horn" catgut is subjected.

We stand behind every strand and guarantee its absolute surgical "safety" when properly handled and used. Supplied in hermetically sealed glass tubes.

VAN HORN & SAWTELL

Samples sent
upon request.

LONDON, ENGLAND
31-33 High Holborn

NEW YORK, U. S. A.
20 East 42nd Street

COMPARATIVE REGISTRATION FIGURES, NOVEMBER, 1906

| Facilities | California | Chicago | Columbia | Cornell | Harvard | Illinois | Indiana | Johns Hopkins | Kansas | Leland Stanford, Jr. | Michigan | Minnesota | Missouri | Nebraska | New York | Northwestern | Ohio State | Pennsylvania | Princeton | Syracuse | Virginia | Wisconsin | Yale | |
|---------------------------------|------------|---------|----------|---------|---------|----------|---------|---------------|--------|----------------------|----------|-----------|----------|----------|----------|--------------|------------|--------------|-----------|----------|----------|-----------|-------|------|
| College Arts, Men..... | 566 | 702 | 606 | 731 | 2236 | 362 | 503 | 166 | 352 | 993 | 1528 | 515 | 371 | 290 | 263 | 368 | 268 | 307 | 758 | 1332 | 278 | 785 | 1350 | |
| College Arts, Women..... | 929 | 647 | 398 | 399 | 395 | 397 | — | — | 364 | 476 | 871 | 354 | 669 | 152 | 479 | 266 | 266 | — | — | — | — | — | | |
| Scientific Schools..... | 758 | 524 | 1544 | 242 | 1020 | 1544 | 189 | — | 400 | 476 | 1197 | 615 | 577 | 619 | 194 | 235 | 149 | 636 | 484 | 407 | 118 | 782 | 929 | |
| Law..... | 40 | 146 | 261 | 206 | 689 | 156 | 189 | — | 170 | 140 | 748 | 441 | 232 | 171 | 806 | 235 | 149 | 180 | 206 | 180 | 206 | 150 | 290 | |
| Medicine..... | 54 | 145 | 352 | 336 | 296 | 498 | 65 | 264 | 107 | 40 | 423 | 196 | 65 | 132 | 448 | 500 | 297 | 594 | 150 | 133 | 155 | 155 | | |
| Graduate Schools..... | 204 | 358 | 808 | 212 | 437 | 139 | — | 156 | 50 | 49 | 96 | 53 | 107 | 95 | 222 | 40 | 41 | 285 | 110 | 65 | 43 | 302 | 357 | |
| Agriculture..... | 112 | — | — | 256 | 43 | 361 | — | — | — | — | 763 | 108 | 175 | — | — | 180 | — | 136 | — | — | — | — | — | |
| Architecture..... | — | — | 87 | 83 | 130 | — | — | — | — | — | — | — | — | — | — | 17 | — | — | — | — | — | — | — | |
| Art..... | — | — | — | — | 13 | — | — | — | 16 | — | 168 | 162 | — | 59 | — | 325 | — | 356 | — | 47 | — | — | — | |
| Dentistry..... | — | — | — | — | 65 | 85 | — | — | — | — | — | — | — | — | — | 210 | 12 | — | — | — | — | — | — | |
| Divinity..... | — | 173 | — | — | 37 | — | — | — | — | — | — | — | — | — | — | 367 | — | — | — | — | — | — | — | |
| Forestry..... | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Music..... | — | — | — | — | 104 | — | — | — | 127 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Pedagogy..... | — | 178 | 28 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Pharmacy..... | — | 728 | 254 | — | — | — | — | — | 80 | — | 92 | 71 | — | — | 36 | 120 | 66 | 111 | — | — | — | — | — | |
| Veterinary..... | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 131 | 62 | 1028 | — | — | — | — | — | |
| Other Courses..... | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Deduct Double Registration..... | — | 247 | — | 248 | — | 42 | — | 32 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Total..... | 2743 | 2429 | 3886 | 3629 | 4429 | 3466 | 1048 | 618 | 1527 | 1518 | 4171 | 3687 | 1803 | 2655 | 3024 | 2635 | 1954 | 3794 | 1352 | 2919 | 745 | 2719 | 3272 | |
| Summer Session, 1906..... | 707 | 2702 | 1041 | 642 | 1074 | 502 | 682 | — | 265 | 51 | 794 | 336 | 403 | 246 | 351 | — | — | 389 | 275 | — | 131 | — | 550 | 222 |
| Deduct Double Registration..... | (204) | (400) | (277) | (266) | (160) | (158) | (215) | (102) | (102) | (39) | (291) | (79) | (135) | (94) | (92) | — | — | (163) | (135) | — | (46) | — | (170) | (17) |
| Grand total, 1906..... | 3246 | 4731 | 4650 | 4975 | 5343 | 3810 | 1555 | 618 | 1500 | 1530 | 4674 | 3944 | 2071 | 2807 | 3283 | 2635 | 1954 | 3794 | 1352 | 2919 | 745 | 2719 | 3272 | |
| " " 1905..... | 3631 | 4557 | 4755 | 3871 | 5283 | 3635 | 1377 | 698 | 1706 | 1846 | 4521 | 3840 | 1887 | 2635 | 2912 | 2791 | 2057 | 3430 | 1361 | 3304 | 745 | 3099 | 3477 | |
| " " 1904..... | 3738 | 4085 | 4833 | 3833 | 5392 | 3369 | 1206 | 740 | 1446 | 1424 | 4000 | 3886 | 1704 | 2728 | 2380 | 2856 | 1758 | 3027 | 1385 | 2452 | 691 | 3570 | 3008 | |
| " " 1903..... | 3690 | 4146 | 4657 | 3438 | 6013 | 3239 | 1614 | 694 | 1319 | 1370 | 3926 | 3550 | 1540 | 2513 | 2177 | 2740 | 1710 | 2644 | 1434 | 2207 | 638 | 3221 | 2890 | |
| " " 1902..... | 3676 | 4296 | 4302 | 3281 | 5468 | — | 1648 | 669 | 1284 | 1378 | 3764 | 3505 | 1408 | 2540 | 2201 | 2875 | 1603 | 2549 | 1345 | 2020 | 586 | 2884 | 2804 | |
| Officers..... | 336 | 341 | 600 | 525 | 583 | 424 | 85 | 189 | 109 | 150 | 332 | 324 | 164 | 175 | 262 | 290 | 176 | 375 | 177 | 213 | 83 | 313 | 428 | |

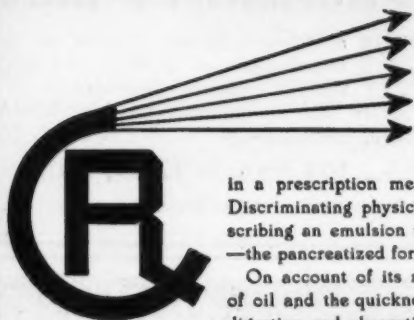
* Includes schools of chemistry, engineering, mining and related departments.

† Included in college statistics. ‡ Temporarily discontinued.

|| Not a separate school; courses taken by undergraduate and graduate students in college or scientific school and graduate school, respectively.

** Included in agriculture.

R. T. Jr.



What Follows R

in a prescription means much to the patient. Discriminating physicians, therefore, when prescribing an emulsion usually specify Hydroleine—the pancreatized form of cod-liver oil.

On account of its remarkably high percentage of oil and the quickness and thoroughness of its digestion and absorption, larger quantities of oil can be assimilated within a given time in the form of Hydroleine than in any other way. Hence, results follow promptly. Write for sample and literature. Sold by all druggists.

THE CHARLES N. CRITTENTON CO., Sole Agents,
115-117 FULTON STREET, NEW YORK.

Copyright 1905, The C. N. Crittenton Co.

ESTABLISHED 1818

Brooks Brothers,

CLOTHING,

Gentlemen's Furnishing Goods.

BROADWAY COR. TWENTY-SECOND ST.
NEW YORK

New materials for Suits made to measure. Ready Made Suits and Overcoats in latest styles and patterns. London-Made Hats from Herbert Johnson including Novelties in Straw and Soft Travelling Hats. Fine Shoes, English Furnishings, Leather and Wicker Goods, etc.

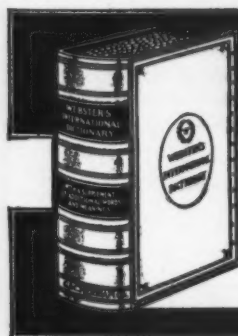
Catalogue containing over 150 illustrations with prices mailed on request

A Different Vacation Place

101 RANCH affords a delightful vacation on the largest ranch in the world, real ranch life and a general good time. Horses, saddles and outfits; also private rooms and comfortable accommodation furnished. For rates and booklet address

MILLER BROS., 101 Ranch, Bliss, Okla.

(Those writing through curiosity enclose ten cents in stamps)



WEBSTER'S INTERNATIONAL DICTIONARY

NEEDED in every HOME, SCHOOL and OFFICE
RECENTLY ADDED, 25,000 NEW WORDS & PHRASES
New Gazetteer of the World
New Biographical Dictionary
2380 Quarto Pages. 8000 Illustrations.

IT IS A PACKED STOREHOUSE OF ACCURATE INFORMATION
Editor in Chief, W. T. HARRIS, Ph.D., LL.D., U.S. Com. of Ed'n

GRAND PRIZE, WORLD'S FAIR, ST. LOUIS

FREE, "Dictionary Wrinkles." Also illustrated pamphlet.
G. & C. MERRIAM CO., Springfield, Mass.

GET THE BEST



INTERCOLLEGIATE BUREAU AND REGISTRY OF ACADEMIC COSTUME



COTRELL & LEONARD

472-478 Broadway

ALBANY, N. Y.

OFFICIAL MAKERS OF THE CAPS, GOWNS AND HOODS

to Columbia, Harvard, Yale, Princeton, Johns Hopkins, Cornell, Williams, University of Chicago, and the others. Class Contracts a Specialty.

Gowns for the Pulpit and the Bench

Illustrated Bulletin upon application

Our New York representative will call upon request to us



THE ROESSLER & HASSLACHER CHEMICAL CO.

100 William Street, New York

CHICAGO

BOSTON

PHILADELPHIA

NIAGARA FALLS

PERTH AMBOY, N. J.

THE HORACE MANN SCHOOL

TEACHERS COLLEGE

120TH STREET AND BROADWAY

A thoroughly modern curriculum for courses from the kindergarten to the college.
An exceptional equipment and a strong staff of teachers.

Address: SAMUEL T. DUTTON

SUPERINTENDENT

THE VELTIN SCHOOL FOR GIRLS

COLLEGE PREPARATORY AND GENERAL COURSE

Number of pupils limited to twelve in each class

Fireproof school building, thoroughly equipped

160 AND 162 WEST 74TH STREET

Connecting with and including

165 WEST 73 STREET—NEW YORK

Collegiate School,

241 WEST SEVENTY-SEVENTH STREET, NEW YORK CITY.

Boys prepared for the Colleges and Scientific Schools.

Primary Department. Well-equipped Gymnasium.

L. C. MYGATT, Principal.

LEMCKE & BUECHNER'S COLUMBIA UNIVERSITY PRESS

=====BOOKSTORES=====

WEST HALL, Boulevard and 117th Street

HORACE MANN SCHOOL, Boulevard and 120th Street NEW YORK

Branches of LEMCKE & BUECHNER, 812 Broadway, New York

PUBLISHERS, IMPORTERS AND
DEALERS IN

FOREIGN AND AMERICAN BOOKS



"Follow the Flag"

Wabash R. R.

Through Car Service is operated between

New York, Boston and Chicago and St. Louis

And with but one change to

Kansas City and Omaha.

Tourist cars every Tuesday, Thursday and Saturday, from Boston to Chicago, which New York passengers can take at Rotterdam Junction, New York.

Connections made with Tourist Cars for Los Angeles, San Francisco and other Pacific Coast points, daily.

Reclining Chair Cars, Seats FREE.

Privilege of Stopping Off for Ten Days at Niagara Falls.

H. B. McLELLAN, G.E.A., 387 B'way, N.Y. J. D. McKEATH, N.E.P.A., 176 Washington St., Boston.
C. S. CRANE, G.P. & T.A., St. Louis, Mo.

THE NEW ERA PRINTING COMPANY

LANCASTER, PA.

is prepared to execute in first-class and satisfactory manner all kinds of Printing, Electrotyping and Binding. Particular attention given to the work of Schools, Colleges, Universities and Public Institutions

Books, Periodicals

Technical and Scientific Publications

Monographs, Theses, Catalogues

Announcements, Reports, etc.

All Kinds of Commercial Work

Publishers will find our product ranking with the best in workmanship and material, at satisfactory prices. Correspondence solicited. Estimates furnished.

THE NEW ERA PRINTING COMPANY

Vapo-Cresolene

ESTABLISHED IN 1879.

A simple and effective method of treating spasmodic coughs and inflamed conditions of the bronchi; particularly useful where internal medication is difficult as in the case of very young children.

The Vapor of Cresolene is destructive to diphtheria bacilli and is a valuable adjunct in the treatment of the disease.

VAPO-CRESOLENE CO., 180 Fulton St., N.Y.

Pollantin

in

HAY FEVER

Cypress Oil

in

Whooping Cough

Send for Literature.

Fritzsche Brothers
New York

CHAS. PFIZER & CO. Inc.

Manufacturing Chemists
NEW YORK.

BISMUTH SUBNITRATE U. S. P. WHITE AND BULKY

Also a Full Line of Chemicals for Medicinal
and Technical Uses

RADIUM

PURE RADIUM BROMIDE RADIUM BARIUM BROMIDE
LIEBER'S RADIUM COATED RODS AND DISCS
LIEBER'S RADIUM GELATINE

ELECTROSCOPES FOR TESTING RADIO-ACTIVITY

H. LIEBER & CO.

1 PLATT STREET

NEW YORK

Chemicals and Chemical Apparatus Assayers' Materials

NEW !

IMPORTANT !

Wanner's Optical Pyrometer

The most reliable instrument indicating exactly the highest temperatures. Made to register up to 2000 degrees C. and 4000 degrees C. and over. Portable and convenient ; giving quickest results ; no special knowledge required.

We now have also the Wanner Pyrometer for low temperatures reading from 600 to 900 degrees C.

E. & A. TESTED PURITY REAGENTS in patented glass cap bottles, no cork stopper necessary, and charge only 10c per lb. more than the regular C. P. Chemicals.

SECTIONAL ELECTRIC LABORATORY FURNACES FOR ALL PURPOSES

Stender's Reagent Bottles

With indelible black or erased lettering

SCHOTT & GENOSSEN'S Famous Jena Laboratory Glassware
C. A. F. KAHLBAUM'S C. P. Organic Preparations and Reagents
CARL SCHLEICHER & SCHUELL'S C. P. Filters
FRANZ SCHMIDT & HAENSCH'S Polariscopes and Spectroscopes
DES MOUTIS & CIE'S Purest Hammered Platinum
GREINER & FRIEDRICH'S Fine Stopcock and Graduated Ware

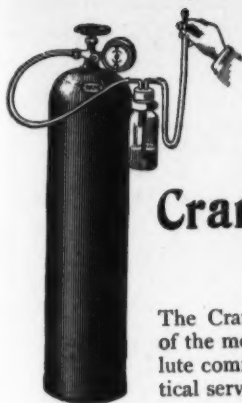
**Our Specialties : COMPLETE LABORATORY OUTFITS---
BALANCES, WEIGHTS, PLATINUM and FINE CHEMICALS**

Everything needed for the Laboratory

Selling agents for Kunzite, a lilac colored, transparent spodumene ; crystals from \$1.00 upwards.

EIMER & AMEND

**205-211 Third Ave., Cor. 18th Street
NEW YORK**



Crane's Oxygen

Purest and Best

Used by the most eminent men in the medical profession
On sale by the leading druggists

Crane's Private Ambulance and Invalid Coach Service

The Crane Coaches are especially adapted to meet the requirements of the medical profession in moving incapacitated persons with absolute comfort and privacy. Entirely new design. Beauty and practical service combined

CRANE'S OXYGEN WORKS

121 WEST 83d STREET, NEW YORK

Telephone 500 RIVERSIDE

OFFICE NEVER CLOSED

General Catalogue
of
Officers and Alumni
Fourteenth Edition

1754-1906

Out this month

Send \$2.00 for a copy to the
SECRETARY,

Committee on General Catalogue
COLUMBIA UNIVERSITY
NEW YORK

SAL HEPATICA

The original effervescent Saline Laxative and Uric Acid Solvent. A combination of the Tonic, Alterative and Laxative Salts similar to the celebrated Bitter Waters of Europe, fortified by addition of Lithia and Sodium Phosphate. It stimulates liver, tones intestinal glands, purifies alimentary tract, improves digestion, assimilation and metabolism. Especially valuable in rheumatism, gout, bilious attacks, constipation. Most efficient in eliminating toxic products from intestinal tract or blood, and correcting vicious or impaired functions.

Write for free samples.
BRISTOL-MYERS CO.
Brooklyn - New York.



Dioxogen

H₂ O₂ 3%

**The Solution of H₂O₂ that Keeps
in all Climates and
in all Seasons for
long Periods**

**It is Reliable Because it
Keeps its Strength**

**It Keeps its Strength Because
IT IS PURE**

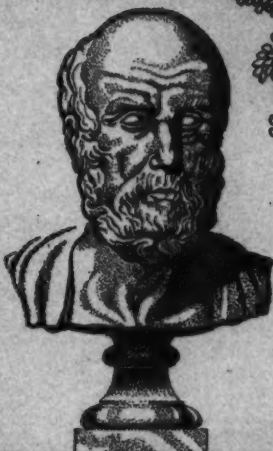
The Oakland Chemical Co.

New York



HIPPOCRATES

B.C. 460



THE FATHER OF MEDICINE

QUININE
CODEINE
MORPHINE
COCAINE
BISMUTH
SUBMIT.
POTASSIUM
IODIDE
STRYCHNINE
ACETANILIDE

HIPPOCRATES reflected in medicine the enlightenment of a great age in Greece, and many of his ideas were a profound anticipation of modern knowledge. While clinical research and the study of natural laws have since added vastly to the store of medical learning, it is only in the last century that chemistry has made discoveries and perfected products that help to bring the practice of medicine to near to an exact science.

Our work has been along the lines of the finer alkaloids and their salts, which preparations we have brought to great perfection. We also make Potassium Iodide and Bismuth Salts of rare purity and our Acetanilide is absolutely chemically pure.

NYQ

NEW YORK QUININE &
CHEMICAL WORKS LTD.

NEW
YORK
CITY

K. W. P. 20

PHILLIPS' PHARMACEUTICAL PREPARATIONS

Phillips' Milk of Magnesia

Mg H₂ O₂ (Fluid).
"The Perfect Antacid."

for correcting Hyperacid conditions—local or systemic
Vehicle for Salicylates, Iodides, Balsams, etc.

Phillips' Emulsion

80% best NORWAY COD LIVER OIL
minutely sub-divided,
WITH WHEAT PHOSPHATES (Phillips')

(representing phosphates similar to those in wheat)
Palatable and Miscible in Water, Milk, Wine, etc.

Phillips' Phospho-Muriate

of Quinine, COMP.

TONIC AND RECONSTRUCTIVE.

Phosphates, with Muriate of Quinine and Strychnine

THE CHAS. H. PHILLIPS CHEMICAL CO. NEW YORK AND LONDON

THE LABORATORIES OF

REED & CARNRICK

are devoted to making of Organic Physiological Products

PROTONUCLEIN, (proto et nucleo-plasm)

The unchanged primary substances with the nuclei of the cells of glandular portions of the body.

PEPTENZYME, (Nucleo-enzymes)

The unchanged primary or nucleo-enzymes of all the glands, which have anything to do with digestion.

TROPHONINE, (Sat. Sol. Nucleo (proteid-et-albumen cum enzymes) R. & C.)

A Liquid tissue builder, differing from ordinary liquid foods.

PANCROBILIN

Dehydrated bile and nucleo-enzymes of pancreas.

NEPHRITIN

The unchanged primary substances of the cells of the cortex with the convoluted tubules of the kidney.

Full particulars about these preparations and answers to all queries will be gladly given.

Please remember that in writing to REED & CARNRICK, you will be answered by medical men thoroughly trained in hospital work and practice, and not by theoretic laboratory workers.

We will forward a copy of our colored Anatomical Chart and book on Neoplasms to any Physician on request.

REED & CARNRICK

42-44-46 Germania Ave.

Jersey City, N. J.

